



United States  
Department of  
Agriculture

In cooperation with  
the Utah Agricultural  
Experiment Station



Natural  
Resources  
Conservation  
Service



United States  
Department of  
Agriculture

Forest Service

# Soil Survey of Summit Area, Utah, parts of Summit, Salt Lake, and Wasatch Counties







# How to Use This Soil Survey

## Detailed Soil Maps

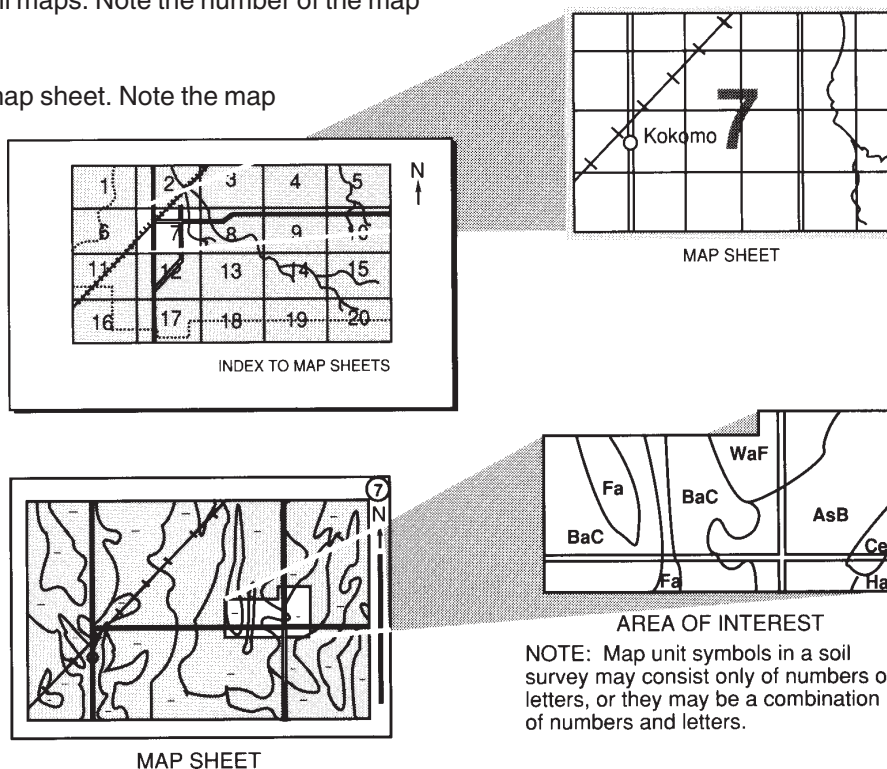
The detailed soil maps follow the general information about the survey area. These maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**, which precedes the soil maps. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map units symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.

A **State Soil Geographic Data Base (STATSGO)** is available for this survey area. This data base consists of a soils map at a scale of 1 to 250,000 and descriptions of groups of associated soils. It replaces the general soil map published in older soil surveys. The map and the data base can be used for multicounty planning, and map output can be tailored for a specific use. More information about the STATSGO for this survey area, or for any portion of Utah, is available at the Utah State Office of the Natural Resources Conservation Service.



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This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1998. Soil names and descriptions were approved in 1999. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1999. This survey was made cooperatively by the Natural Resources Conservation Service, the Forest Service, and the Utah Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Summit County and Salt Lake County Soil Conservation Districts.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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**Cover:** Golf course on Manila-Ant Flat loams, 2 to 8 percent slopes; condominiums on Manila-Henefer complex, 8 to 15 percent slopes; and ski runs on Parkcity-Dromedary gravelly loams, 30 to 70 percent slopes.

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## Foreword

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This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.



Phillip J. Nelson  
State Conservationist



# Soil Survey of Summit Area, Utah, Parts of Summit, Salt Lake, and Wasatch Counties

By John L. Harvey and Darryl L. Trickler  
Fieldwork by Terry Dallian, John L. Harvey, and Darryl L. Trickler

United States Department of Agriculture, Natural Resources Conservation Service and  
Forest Service,  
in cooperation with  
the Utah Agricultural Experiment Station

## General Nature of the Survey Area

The survey area is located in north-central Utah. It consists of parts of Summit, Wasatch, and Salt Lake Counties, Utah. The survey area is bordered on the northwest by Morgan and Rich Counties, Utah; on the northeast by Uinta County, Wyoming; and on the southeast by Duchesne County, Utah (Fig. 1).

The survey area has about 725,877 acres, or about 1,134 square miles: 638,961 acres, or 998 square miles, is in Summit County; 84,047 acres, or 131 square miles, is in Salt Lake County; and 2,869 acres, or 5 square miles, is in Wasatch County. The survey area is located in the valleys and mountains of the Wasatch and Uinta mountain ranges, and is drained by the Bear, Weber, and Provo Rivers.

The area mainly is used for rangeland, cropland, and timber; as wildlife habitat; and for recreation. The communities of Park City, Coalville (Summit County seat), Kamas, Oakley, Wanship, and Henefer serve as the main population centers of the area.

Soil scientists have identified about 35 different kinds of soil in the survey area. The soils range widely in texture, natural drainage, and other characteristics.

## History

The survey area served as traditional hunting grounds for the Shoshone and Ute Native American tribes. Later, famous mountain men such as Jim Bridger, lived and worked in this area as fur trappers. In 1846 the Reed-Donner party blazed a trail through the area leading into the Great Basin and on to California. A year later the Mormons adopted part of the same trail, which became the main route for the migration of Mormons to Utah. These trails later



Figure 1.—Location of Summit County, Utah.

became major routes into the Great Basin by railroads and highways.

The first pioneer settlement in the area was Parley's Park, now Snyderville, established in 1850. Summit County was recognized by the Utah Legislature in 1854. Coalville was established in 1859 soon after coal was discovered nearby, and it later became the Summit County seat. Coalville supplied much of the coal used by the Salt Lake Valley settlements for



many years. Silver was discovered near Snyderville in 1863, and mining became an important activity in the area until the 1950's. Silver, gold, lead, and zinc were mined in the area, supplying resources to help build the state and intermountain west. The construction of the first transcontinental railroad through Echo Canyon and finished at Promontory Summit in 1869 was a significant event in the development of the area. The railroad allowed importing and exporting of goods quickly and efficiently, greatly changing the economy of the area.

The varied terrain and climatic conditions of the area have fostered prosperous farming communities, extensive sheep and cattle production, dairies, and the raising of poultry and mink.

In the 1950's when mining became no longer profitable, Park City was on the verge of becoming a ghost town, but the area's rugged terrain and deep snow led to its rebirth as a winter sports center. Skiing is now a major economic activity in the area. Park City attracted worldwide attention hosting many of the 2002 Salt Lake City Winter Olympic events. Other recreational opportunities such as boating, fishing, and tourism have added to the county's diversified economy (Utah State Historical Society, 1988).

## Climate

The climate of the survey area is markedly influenced by the topography. The mountain valley areas and lower mountain slopes receive about 16 to 22 inches of average annual precipitation, and have an annual frost-free period of about 80 to 100 days. The mid slopes of the mountain areas receive from 22 to 35 inches of average annual precipitation, and have an annual freeze-free period of about 20 to 60 days. The upper portions of the mountain areas can receive over 35 inches of precipitation. Weather station sites at Coalville, Echo Dam, and Wanship Dam are in valley areas, while Silver Lake Brighton is in a high mountain area.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Coalville, Echo Dam, Silver Lake Brighton, and Wanship Dam in the period 1961 to 1990. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive

plantings of a crop between the last freeze in spring and the first freeze in fall.

## How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes

(units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels

of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

The descriptions, names, and delineations of the soils in this survey area do not full agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.



## Detailed Soil Map Units

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The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Ant Flat loam, 2 to 8 percent slopes is a phase of the Ant Flat series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or associations.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Ayoub-Dunford-Melling complex, 15 to 30 percent slopes is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the

survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Skutum-Uinta association, 30 to 60 percent slopes is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

## 101—Agassiz-Rock outcrop complex, 30 to 70 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,200 to 8,200 feet (1,585 to 2,500 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Agassiz and similar soils: 60 percent

Rock outcrop: 25 percent

Minor components: 15 percent

### Component Descriptions

#### Agassiz soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from limestone

*Slope:* 30 to 70 percent, southwest to southeast aspects

*Depth to restrictive feature:* 10 to 20 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 1.3 inches (very low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 3 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Shallow Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, muttongrass, Indian ricegrass, arrowleaf balsamroot, bottlebrush squirreltail, mountain snowberry, western wheatgrass

*Land capability subclass (nonirrigated):* 7e

### Typical Profile:

A1—0 to 6 inches; very cobbly loam

A2—6 to 14 inches; very cobbly loam

R—14 to 24 inches; bedrock

### Rock outcrop

*Landforms:* Escarpments, ridges

*Seasonal water table minimum depth:* Greater than 6 feet

*Land capability subclass (nonirrigated):* 8

### Minor Components

Horrocks and similar soils

*Composition:* About 10 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

Hades and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)

## 102—Ant Flat loam, 2 to 8 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 6,300 to 8,000 feet (1,920 to 2,438 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

**Map Unit Composition**

Ant Flat and similar soils: 85 percent  
 Minor components: 15 percent

**Component Descriptions****Ant Flat soils**

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from conglomerate, sandstone, and shale  
*Slope:* 2 to 8 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 9.9 inches (high)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Medium  
*Calcium carbonate maximum:* About 30 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass  
*Land capability subclass (irrigated):* 3e  
*Land capability subclass (nonirrigated):* 3e

*Typical Profile:*  
 A—0 to 13 inches; loam  
 Bt1—13 to 19 inches; clay loam  
 Bt2—19 to 30 inches; clay  
 Bk1—30 to 45 inches; clay loam  
 Bk2—45 to 60 inches; clay loam

**Minor Components**

Dastrup and similar soils  
*Composition:* About 5 percent  
*Landform:* Fan remnants  
*Slope:* 2 to 5 percent  
*Drainage class:* Well drained  
*Ecological site:* Upland Loam (Mountain Big Sagebrush)

Manila and similar soils  
*Composition:* About 5 percent  
*Landforms:* Fan remnants  
*Slope:* 2 to 8 percent  
*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Fewkes and similar soils

*Composition:* About 3 percent  
*Landform:* Fan remnants  
*Slope:* 2 to 8 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Henefer and similar soils

*Composition:* About 2 percent  
*Landform:* Fan remnants  
*Slope:* 3 to 15 percent, northwest to northeast aspects  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Oak)

**103—Ant Flat loam, 8 to 15 percent slopes****Map Unit Setting**

*MLRA:* 47  
*Elevation:* 5,700 to 8,100 feet (1,738 to 2,470 meters)  
*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 90 days

**Map Unit Composition**

Ant Flat and similar soils: 85 percent  
 Minor components: 15 percent

**Component Descriptions****Ant Flat soils**

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from sandstone, shale, and conglomerate  
*Slope:* 8 to 15 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 9.9 inches (high)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* About 30 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)



*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (irrigated):* 4e

*Land capability subclass (nonirrigated):* 4e

*Typical Profile:*

A—0 to 13 inches; loam

Bt1—13 to 19 inches; clay loam

Bt2—19 to 30 inches; clay

Bk1—30 to 45 inches; clay loam

Bk2—45 to 60 inches; clay loam

### Minor Components

Dastrup and similar soils

*Composition:* About 5 percent

*Landform:* Fan remnants

*Slope:* 5 to 15 percent

*Drainage class:* Well drained

*Ecological site:* Upland Loam (Mountain Big Sagebrush)

Manila and similar soils

*Composition:* About 5 percent

*Landform:* Fan remnants

*Slope:* 8 to 15 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Fewkes and similar soils

*Composition:* About 3 percent

*Landform:* Fan remnants

*Slope:* 8 to 15 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Henefer and similar soils

*Composition:* About 2 percent

*Landform:* Fan remnants

*Slope:* 8 to 15 percent, northwest to northeast aspects

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)

## 104—Ant Flat loam, 15 to 30 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 6,200 to 7,400 feet (1,890 to 2,255 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Ant Flat and similar soils: 90 percent

Minor components: 10 percent

### Component Descriptions

#### Ant Flat soils

*Landform:* Fan remnants

*Parent material:* Slope alluvium derived from sandstone, shale, and conglomerate

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 9.9 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 30 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A—0 to 13 inches; loam

Bt1—13 to 19 inches; clay loam

Bt2—19 to 30 inches; clay



Bk1—30 to 45 inches; clay loam  
Bk2—45 to 60 inches; clay loam

### Minor Components

Henefer and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Oak)

Yeates Hollow and similar soils

*Composition:* About 5 percent  
*Landforms:* Mountain slopes, ridges  
*Slope:* 15 to 30 percent, northwest to northeast aspects  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

## 105—Ant Flat-Henefer-Skutum complex, 8 to 30 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 6,800 to 8,200 feet (2,073 to 2,500 meters)

*Mean annual precipitation:* 16 to 35 inches (405 to 890 millimeters)

*Average annual air temperature:* 35 to 45 degrees F. (2 to 7 degrees C.)

*Frost-free period:* 20 to 90 days

### Map Unit Composition

Ant Flat and similar soils: 40 percent

Henefer and similar soils: 30 percent

Skutum and similar soils: 20 percent

Minor components: 10 percent

### Component Descriptions

#### Ant Flat soils

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from conglomerate, sandstone, and shale  
*Slope:* 8 to 30 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 9.9 inches (high)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 30 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A—0 to 13 inches; loam

Bt1—13 to 19 inches; clay loam

Bt2—19 to 30 inches; clay

Bk1—30 to 45 inches; clay loam

Bk2—45 to 60 inches; clay loam

#### Henefer soils

*Landforms:* Fan remnants, mountain slopes

*Parent material:* Slope alluvium derived from quartzite, sandstone, and shale

*Slope:* 8 to 30 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 7.0 inches (moderate)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Oak)

*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass, elk sedge, mountain big sagebrush, slender wheatgrass, thickleaf peavine

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A1—0 to 7 inches; gravelly loam

A2—7 to 12 inches; gravelly loam

Bt1—12 to 21 inches; cobbly clay

Bt2—21 to 30 inches; cobbly clay

Bt3—30 to 37 inches; very gravelly clay loam

Bt4—37 to 43 inches; very gravelly clay loam

Bt5—43 to 50 inches; very cobbly sandy clay loam  
 BC—50 to 60 inches; very cobbly sandy clay loam

### Skutum soils

*Landform:* Mountain slopes

*Parent material:* Colluvium and slope alluvium derived from conglomerate, sandstone, siltstone, and claystone

*Slope:* 8 to 30 percent, northwest to northeast aspects

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 7.2 inches (moderate)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Loam (Aspen)

*Potential native vegetation:* mountain brome, slender wheatgrass, thickleaf peavine, Columbia needlegrass, Kentucky bluegrass, blue wildrye, butterweed groundsel, coneflower, elk sedge, mountain snowberry, nodding bluegrass, sticky geranium, western sweetroot

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A1—0 to 5 inches; loam

A2—5 to 17 inches; loam

Bt1—17 to 32 inches; gravelly clay

Bt2—32 to 44 inches; gravelly clay

Bt3—44 to 48 inches; gravelly clay

2C—48 to 56 inches; gravelly sandy loam

Cr—56 to 60 inches; bedrock

### Minor Components

Fewkes and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 8 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Harter and similar soils

*Composition:* About 3 percent

*Landforms:* Fan remnants, mountain slopes

*Slope:* 8 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Yeates Hollow and similar soils

*Composition:* About 4 percent

*Landform:* Mountain slopes

*Slope:* 8 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

## 106—Ayoub cobbly loam, 2 to 15 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,800 to 8,000 feet (1,768 to 2,438 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Ayoub and similar soils: 85 percent

Minor components: 15 percent

### Component Descriptions

#### Ayoub soils

*Landform:* Mountain slopes

*Parent material:* Slope alluvium derived from andesite over residuum weathered from andesite

*Slope:* 2 to 15 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 4.0 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Medium

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, slender wheatgrass, Letterman's needlegrass, mountain big sagebrush, Columbia needlegrass, Nevada bluegrass, antelope bitterbrush, birchleaf mountain mahogany, muttongrass, sticky geranium, thickleaf peavine

*Land capability subclass (nonirrigated):* 6s

*Typical Profile:*

A—0 to 6 inches; cobbly loam

Bt1—6 to 12 inches; gravelly clay loam

Bt2—12 to 18 inches; gravelly clay loam

Bt3—18 to 23 inches; gravelly clay loam

C—23 to 35 inches; very cobbly loam

R—35 to 45 inches; bedrock

### Minor Components

Ant Flat and similar soils

*Composition:* About 5 percent

*Landform:* Fan remnants

*Slope:* 2 to 15 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Dunford and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Gravelly Loam (Oak)

Melling and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 12 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Shallow Loam (Mountain Big Sagebrush)

## 107—Ayoub-Dunford-Melling complex, 15 to 30 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,800 to 7,800 feet (1,768 to 2,378 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Ayoub and similar soils: 45 percent

Melling and similar soils: 20 percent

Dunford and similar soils: 20 percent

Minor components: 15 percent

### Component Descriptions

#### Ayoub soils

*Landform:* Mountain slopes

*Parent material:* Colluvium and slope alluvium derived from andesite

*Slope:* 15 to 30 percent, southeast to southwest aspects

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 4.0 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, slender wheatgrass, Letterman's needlegrass, mountain big sagebrush, Columbia needlegrass,

Nevada bluegrass, antelope bitterbrush, birchleaf mountain mahogany, muttongrass, sticky geranium, thickleaf peavine

*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A—0 to 6 inches; cobbly loam  
 Bt1—6 to 12 inches; gravelly clay loam  
 Bt2—12 to 18 inches; gravelly clay loam  
 Bt3—18 to 23 inches; gravelly clay loam  
 C—23 to 35 inches; very cobbly loam  
 R—35 to 45 inches; bedrock

**Dunford soils**

*Landform:* Mountain slopes

*Parent material:* Colluvium and slope alluvium derived from andesite

*Slope:* 15 to 30 percent, southeast to southwest aspects

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 4.4 inches (low)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Gravelly Loam (Oak)

*Potential native vegetation:* Gambel's oak, bluebunch wheatgrass, mountain snowberry, slender wheatgrass, Saskatoon serviceberry, antelope bitterbrush, birchleaf mountain mahogany, elk sedge, mountain brome, thickleaf peavine

*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A—0 to 10 inches; cobbly loam  
 Bt1—10 to 21 inches; gravelly clay loam  
 Bt2—21 to 36 inches; gravelly clay loam  
 R—36 to 46 inches; bedrock

**Melling soils**

*Landform:* Mountain slopes

*Parent material:* Colluvium and/or slope alluvium

*Slope:* 15 to 30 percent, southeast to southwest aspects

*Depth to restrictive feature:* 12 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 1.5 inches (very low)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Shallow Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, muttongrass, Indian ricegrass, arrowleaf balsamroot, bottlebrush squirreltail, mountain snowberry, western wheatgrass

*Land capability subclass (nonirrigated):* 7s

*Typical Profile:*

A—0 to 6 inches; extremely stony loam  
 Bt—6 to 19 inches; very cobbly clay loam  
 R—19 to 29 inches; bedrock

**Minor Components**

Fewkes and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Echocreek and similar soils

*Composition:* About 4 percent

*Landform:* Stream terraces

*Slope:* 2 to 10 percent

*Drainage class:* Well drained

*Ecological site:* Upland Loam (Basin Wildrye)

Rock outcrop

*Composition:* About 3 percent

*Landforms:* Ridges, escarpments

Hades and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)

## 108—Ayoub-Dunford-Melling complex, 30 to 60 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,800 to 7,800 feet (1,768 to 2,378 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Ayoub and similar soils: 45 percent

Melling and similar soils: 20 percent

Dunford and similar soils: 20 percent

Minor components: 15 percent

### Component Descriptions

#### Ayoub soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from andesite

*Slope:* 30 to 60 percent, south aspect

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 4.0 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, slender wheatgrass, Letterman's needlegrass, mountain big sagebrush, Columbia needlegrass, Nevada bluegrass, antelope bitterbrush, birchleaf

mountain mahogany, muttongrass, sticky geranium, thickleaf peavine

*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A—0 to 6 inches; cobbly loam

Bt1—6 to 12 inches; gravelly clay loam

Bt2—12 to 18 inches; gravelly clay loam

Bt3—18 to 23 inches; gravelly clay loam

C—23 to 35 inches; very cobbly loam

R—35 to 45 inches; bedrock

#### Dunford soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from andesite

*Slope:* 30 to 60 percent, south aspect

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 4.4 inches (low)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Gravelly Loam (Oak)

*Potential native vegetation:* Gambel's oak, bluebunch

wheatgrass, mountain snowberry, slender

wheatgrass, Saskatoon serviceberry, antelope

bitterbrush, birchleaf mountain mahogany, elk

sedge, mountain brome, thickleaf peavine

*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A—0 to 10 inches; cobbly loam

Bt1—10 to 21 inches; gravelly clay loam

Bt2—21 to 36 inches; gravelly clay loam

R—36 to 46 inches; bedrock

#### Melling soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from andesite

*Slope:* 30 to 60 percent, south aspect

*Depth to restrictive feature:* 12 to 20 inches to bedrock (lithic)



*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 1.5 inches (very low)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Shallow Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, muttongrass, Indian ricegrass, arrowleaf balsamroot, bottlebrush squirreltail, mountain snowberry, western wheatgrass  
*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A—0 to 6 inches; extremely stony loam  
 Bt—6 to 19 inches; very cobbly clay loam  
 R—19 to 29 inches; bedrock

### Minor Components

Fewkes and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Echocreek and similar soils

*Composition:* About 4 percent  
*Landform:* Stream terraces  
*Slope:* 2 to 10 percent  
*Drainage class:* Well drained  
*Ecological site:* Upland Loam (Basin Wildrye)

Rock outcrop

*Composition:* About 3 percent  
*Landforms:* Ridges, escarpments

Hades and similar soils

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Oak)

## 109—Cluff loam, 8 to 30 percent slopes

### Map Unit Setting

*MLRA:* 47  
*Elevation:* 6,800 to 10,200 feet (2,072 to 3,110 meters)  
*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)  
*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)  
*Frost-free period:* 20 to 60 days

### Map Unit Composition

Cluff and similar soils: 85 percent  
 Minor components: 15 percent

### Component Descriptions

#### Cluff soils

*Landform:* Mountain slopes  
*Parent material:* Colluvium and slope alluvium derived from quartzite, sandstone, and conglomerate  
*Slope:* 8 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 5.7 inches (low)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Stony Loam (Mixed Conifer)  
*Potential native vegetation:* elk sedge, slender wheatgrass, Oregongrape, Wheeler bluegrass, blue wildrye, boxleaf myrtle, common juniper, heartleaf arnica, kinnikinnick, mallow ninebark, mountain snowberry, spike trisetum  
*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A1—0 to 4 inches; loam  
 A2—4 to 9 inches; gravelly loam  
 E—9 to 16 inches; very gravelly loam  
 BtE—16 to 20 inches; very cobbly clay loam  
 Bt1—20 to 33 inches; very cobbly clay

Bt2—33 to 54 inches; very cobbly clay  
R—54 to 60 inches; bedrock

### Minor Components

Lucky Star and similar soils

*Composition:* About 10 percent  
*Landform:* Mountain slopes  
*Slope:* 8 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Aspen)

Crandall and similar soils

*Composition:* About 5 percent  
*Landforms:* Mountain slopes, kame moraines  
*Slope:* 8 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)

## 110—Cluff loam, 30 to 60 percent slopes

### Map Unit Setting

MLRA: 47

*Elevation:* 7,000 to 10,600 feet (2,135 to 3,230 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

### Map Unit Composition

Cluff and similar soils: 85 percent

Minor components: 15 percent

### Component Descriptions

#### Cluff soils

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from quartzite, sandstone, and conglomerate  
*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 5.7 inches (low)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

*Potential native vegetation:* elk sedge, slender wheatgrass, Oregongrape, Wheeler bluegrass, blue wildrye, boxleaf myrtle, common juniper, heartleaf arnica, kinnikinnick, mallow ninebark, mountain snowberry, spike trisetum

*Land capability subclass (nonirrigated):* 7e

### Typical Profile:

A1—0 to 4 inches; loam

A2—4 to 9 inches; gravelly loam

E—9 to 16 inches; very gravelly loam

BtE—16 to 20 inches; very cobbly clay loam

Bt1—20 to 33 inches; very cobbly clay

Bt2—33 to 54 inches; very cobbly clay

R—54 to 60 inches; bedrock

### Minor Components

Lucky Star and similar soils

*Composition:* About 10 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Aspen)

Crandall and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)

## 111—Crandall gravelly loam, 2 to 8 percent slopes

### Map Unit Setting

MLRA: 47

*Elevation:* 9,800 to 11,000 feet (2,988 to 3,353 meters)



*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)  
*Average annual air temperature:* 35 to 40 degrees F.  
 (2 to 4 degrees C.)  
*Frost-free period:* 20 to 60 days

### Map Unit Composition

Crandall and similar soils: 90 percent  
 Minor components: 10 percent

### Component Descriptions

#### Crandall soils

*Landform:* Till plains  
*Parent material:* Till derived from sandstone and conglomerate  
*Slope:* 2 to 8 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 5.7 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Medium  
*Calcium carbonate maximum:* About 15 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Alpine Meadow (Alpine Timothy)  
*Potential native vegetation:* alpine timothy, tufted hairgrass, alpine bentgrass, aster, fringed brome, sulphur wildbuckwheat, timber oatgrass  
*Land capability subclass (nonirrigated):* 6s

#### Typical Profile:

A1—0 to 5 inches; gravelly loam  
 A2—5 to 14 inches; gravelly loam  
 Bt—14 to 45 inches; very cobbly clay loam  
 Bk—45 to 55 inches; very cobbly loam  
 R—55 to 60 inches; bedrock

### Minor Components

Duchesne and similar soils  
*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 2 to 15 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Sandy Loam (Lodgepole Pine)

Sessions and similar soils

*Composition:* About 5 percent  
*Landform:* Till plains  
*Slope:* 2 to 15 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Loam (Silver Sagebrush)

## 112—Crandall-Lucky Star gravelly loams, 5 to 30 percent slopes

### Map Unit Setting

*MLRA:* 47  
*Elevation:* 7,400 to 9,900 feet (2,257 to 3,018 meters)  
*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)  
*Average annual air temperature:* 35 to 40 degrees F.  
 (2 to 4 degrees C.)  
*Frost-free period:* 20 to 60 days

### Map Unit Composition

Crandall and similar soils: 55 percent  
 Lucky Star and similar soils: 30 percent  
 Minor components: 15 percent

### Component Descriptions

#### Crandall soils

*Landforms:* Mountain slopes, kame moraines  
*Parent material:* Till and slope alluvium derived from sandstone and conglomerate  
*Slope:* 5 to 30 percent (Fig. 2)



Figure 2.—Sheep on Crandall-Lucky Star gravelly loams, 5 to 30 percent slopes. Duchesne very cobbly sandy loam, 15 to 30 percent slopes under conifer trees in the background.

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 5.7 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* About 15 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)

*Potential native vegetation:* slender wheatgrass, mountain brome, Columbia needlegrass, mountain big sagebrush, sheep fescue

*Land capability subclass (nonirrigated):* 6e

**Typical Profile:**

A1—0 to 5 inches; gravelly loam

A2—5 to 14 inches; gravelly loam

Bt—14 to 45 inches; very cobbly clay loam

Bk—45 to 55 inches; very cobbly loam

R—55 to 60 inches; bedrock

**Lucky Star soils**

*Landform:* Mountain slopes

*Parent material:* Colluvium and slope alluvium derived from sandstone, conglomerate, and siltstone

*Slope:* 5 to 30 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 5.2 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Stony Loam (Aspen)

*Potential native vegetation:* mountain brome, nodding brome, sticky geranium, Columbia needlegrass, Fendler's meadowrue, Nevada bluegrass, elk sedge, mountain big sagebrush, mountain snowberry, quaking aspen

*Land capability subclass (nonirrigated):* 6e

**Typical Profile:**

A1—0 to 6 inches; gravelly loam

A2—6 to 12 inches; gravelly loam

E—12 to 25 inches; very gravelly fine sandy loam

E/Bt—25 to 47 inches; very cobbly sandy loam

Bt/E—47 to 62 inches; very cobbly sandy clay loam

Bt—62 to 80 inches; very cobbly sandy clay loam

**Minor Components**

Uinta and similar soils

*Composition:* About 8 percent

*Landform:* Mountain slopes

*Slope:* 8 to 30 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

Starley Family and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 5 to 30 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Loam (Mountain Big Sagebrush)

Rock outcrop

*Composition:* About 2 percent

*Landforms:* Ridges, escarpments

**113—Crandall-Lucky Star-Starley Family complex, 30 to 70 percent slopes**

**Map Unit Setting**

*MLRA:* 47

*Elevation:* 7,300 to 10,800 feet (2,225 to 3,293 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

**Map Unit Composition**

Crandall and similar soils: 50 percent

Lucky Star and similar soils: 20 percent

Starley Family and similar soils: 15 percent

Minor components: 15 percent

**Component Descriptions**

**Crandall soils**

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone and conglomerate  
*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 5.7 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* About 15 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* slender wheatgrass, mountain brome, Columbia needlegrass, mountain big sagebrush, sheep fescue  
*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A1—0 to 5 inches; gravelly loam  
 A2—5 to 14 inches; gravelly loam  
 Bt—14 to 45 inches; very cobbly clay loam  
 Bk—45 to 55 inches; very cobbly loam  
 R—55 to 60 inches; bedrock

**Lucky Star soils**

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone and conglomerate  
*Slope:* 30 to 60 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 5.2 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Stony Loam (Aspen)  
*Potential native vegetation:* mountain brome, nodding brome, sticky geranium, Columbia needlegrass, Fendler's meadowrue, Nevada bluegrass, elk

sedge, mountain big sagebrush, mountain snowberry, quaking aspen  
*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A1—0 to 6 inches; gravelly loam  
 A2—6 to 12 inches; gravelly loam  
 E—12 to 25 inches; very gravelly fine sandy loam  
 E/Bt—25 to 47 inches; very cobbly sandy loam  
 Bt/E—47 to 62 inches; very cobbly sandy clay loam  
 Bt—62 to 80 inches; very cobbly sandy clay loam

**Starley Family soils**

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone and conglomerate  
*Slope:* 30 to 70 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 1.5 inches (very low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* About 3 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* slender wheatgrass, Columbia needlegrass, mountain big sagebrush, mountain brome, sheep fescue, mountain snowberry, sticky geranium, thickleaf peavine  
*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A1—0 to 6 inches; very cobbly loam  
 A2—6 to 15 inches; extremely cobbly loam  
 Bk—15 to 19 inches; extremely cobbly loam  
 R—19 to 29 inches; bedrock

**Minor Components**

Uinta and similar soils

*Composition:* About 10 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

**Rock outcrop***Composition:* About 5 percent*Landforms:* Ridges, escarpments**114—Crandall-Starley Family-Rock outcrop complex, 5 to 30 percent slopes****Map Unit Setting***MLRA:* 47*Elevation:* 8,100 to 10,600 feet (2,470 to 3,230 meters)*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)*Frost-free period:* 20 to 60 days**Map Unit Composition**

Crandall and similar soils: 50 percent

Starley Family and similar soils: 30 percent

Rock outcrop: 10 percent

Minor components: 10 percent

**Component Descriptions****Crandall soils***Landforms:* Mountain slopes, kame moraines*Parent material:* Till and slope alluvium derived from sandstone and conglomerate*Slope:* 5 to 30 percent*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)*Drainage class:* Well drained*Slowest permeability:* About 0.20 in/hr (moderately slow)*Available water capacity:* About 5.7 inches (low)*Shrink-swell potential:* About 1.5 LEP (low)*Flooding hazard:* None*Seasonal water table minimum depth:* Greater than 6 feet*Runoff class:* High*Calcium carbonate maximum:* About 15 percent*Gypsum maximum:* None*Salinity maximum:* About 0 mmhos/cm (nonsaline)*Sodicity maximum:* About 0 SAR (nonsodic)*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)*Potential native vegetation:* slender wheatgrass, mountain brome, Columbia needlegrass, mountain big sagebrush, sheep fescue*Land capability subclass (nonirrigated):* 6e*Typical Profile:*

A1—0 to 5 inches; gravelly loam

A2—5 to 14 inches; gravelly loam

Bt—14 to 45 inches; very cobbly clay loam

Bk—45 to 55 inches; very cobbly loam

R—55 to 60 inches; bedrock

**Starley Family soils***Landform:* Mountain slopes*Parent material:* Colluvium over residuum, both derived from sandstone and conglomerate*Slope:* 5 to 30 percent*Drainage class:* Well drained*Slowest permeability:* About 0.60 in/hr (moderate)*Available water capacity:* About 1.5 inches (very low)*Flooding hazard:* None*Seasonal water table minimum depth:* Greater than 6 feet*Runoff class:* High*Calcium carbonate maximum:* About 3 percent*Gypsum maximum:* None*Salinity maximum:* About 0 mmhos/cm (nonsaline)*Sodicity maximum:* About 0 SAR (nonsodic)*Ecological site:* High Mountain Loam (Mountain Big Sagebrush)*Potential native vegetation:* slender wheatgrass, Columbia needlegrass, mountain big sagebrush, mountain brome, sheep fescue, mountain snowberry, sticky geranium, thickleaf peavine*Land capability subclass (nonirrigated):* 6e*Typical Profile:*

A1—0 to 6 inches; very cobbly loam

A2—6 to 15 inches; extremely cobbly loam

Bk—15 to 19 inches; extremely cobbly loam

R—19 to 29 inches; bedrock

**Rock outcrop***Landforms:* Ridges, mountains, escarpments*Seasonal water table minimum depth:* Greater than 6 feet*Land capability subclass (nonirrigated):* 8**Minor Components**

Dromedary and similar soils

*Composition:* About 5 percent*Landform:* Mountain slopes*Slope:* 15 to 30 percent*Drainage class:* Well drained





**Figure 3.—Pasture along Chalk Creek on Dastrup loam, 2 to 5 percent slopes. Jana-Richsum-Rock outcrop complex, 30 to 70 percent slopes, is in the background.**

*Ecological site:* High Mountain Stony Loam (Douglas-fir)

Lucky Star and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 5 to 30 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Aspen)

## 115—Dastrup loam, 2 to 5 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,600 to 6,500 feet (1,708 to 1,980 meters)

*Mean annual precipitation:* 14 to 16 inches (355 to 405 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 70 to 100 days

### Map Unit Composition

Dastrup and similar soils: 90 percent

Minor components: 10 percent

### Component Descriptions

#### Dastrup soils

*Landform:* Fan remnants

*Parent material:* Slope alluvium derived from sandstone, siltstone, and conglomerate

*Slope:* 2 to 5 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.0 inches (moderate)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Low

*Calcium carbonate maximum:* About 40 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Upland Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, Indian ricegrass, basin wildrye, mountain big sagebrush, needleandthread, Oregongrape, antelope bitterbrush, aster, tapertip hawksbeard, western wheatgrass (Fig. 3)

*Land capability subclass (irrigated):* 3c

*Land capability subclass (nonirrigated):* 4s

### Typical Profile:

A—0 to 12 inches; loam

Bw—12 to 16 inches; clay loam

Bk1—16 to 36 inches; loam

Bk2—36 to 48 inches; loam

Bk3—48 to 60 inches; loam

### Minor Components

Ant Flat and similar soils

*Composition:* About 5 percent

*Landform:* Fan remnants

*Slope:* 2 to 8 percent, northwest to northeast aspects

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Richsum and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 4 to 15 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* Upland Loam (Mountain Big Sagebrush)

Cutoff and similar soils

*Composition:* About 2 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Stony Loam (Mountain Big Sagebrush)

## 116—Dastrup loam, 5 to 15 percent slopes

### Map Unit Setting

*MLRA:* 47  
*Elevation:* 5,600 to 6,600 feet (1,707 to 2,012 meters)  
*Mean annual precipitation:* 14 to 16 inches (355 to 405 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 70 to 100 days

### Map Unit Composition

Dastrup and similar soils: 85 percent  
 Minor components: 15 percent

### Component Descriptions

#### Dastrup soils

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from sandstone, siltstone, and conglomerate  
*Slope:* 5 to 15 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 9.0 inches (moderate)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Medium  
*Calcium carbonate maximum:* About 40 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Upland Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, Indian ricegrass, basin wildrye, mountain big sagebrush, needleandthread, Oregon grape, antelope bitterbrush, aster, tapertip hawksbeard, western wheatgrass

*Land capability subclass (irrigated):* 3e  
*Land capability subclass (nonirrigated):* 4s

### Typical Profile:

A—0 to 12 inches; loam  
 Bw—12 to 16 inches; clay loam  
 Bk1—16 to 36 inches; loam  
 Bk2—36 to 48 inches; loam  
 Bk3—48 to 60 inches; loam

### Minor Components

#### Ant Flat and similar soils

*Composition:* About 5 percent  
*Landform:* Fan remnants  
*Slope:* 8 to 15 percent, northwest to northeast aspects  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

#### Cutoff and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Stony Loam (Mountain Big Sagebrush)

#### Richsum and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 4 to 15 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Loam (Mountain Big Sagebrush)

## 117—Dastrup loam, 15 to 30 percent slopes

### Map Unit Setting

*MLRA:* 47  
*Elevation:* 5,400 to 6,600 feet (1,645 to 2,012 meters)  
*Mean annual precipitation:* 14 to 16 inches (355 to 405 millimeters)



*Average annual air temperature:* 40 to 45 degrees F.  
(4 to 7 degrees C.)

*Frost-free period:* 70 to 100 days

### Map Unit Composition

Dastrup and similar soils: 85 percent  
Minor components: 15 percent

### Component Descriptions

#### Dastrup soils

*Landform:* Fan remnants

*Parent material:* Slope alluvium derived from sandstone, siltstone, and conglomerate

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.0 inches (moderate)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* About 40 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Upland Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, Indian ricegrass, basin wildrye, mountain big sagebrush, needleandthread, Oregon grape, antelope bitterbrush, aster, tapertip hawksbeard, western wheatgrass

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A—0 to 12 inches; loam

Bw—12 to 16 inches; clay loam

Bk1—16 to 36 inches; loam

Bk2—36 to 48 inches; loam

Bk3—48 to 60 inches; loam

### Minor Components

Cutoff and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 22 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Upland Stony Loam (Mountain Big Sagebrush)

Hades and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent, northwest to northeast aspects

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)

Richsum and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* Upland Loam (Mountain Big Sagebrush)

## 118—Dromedary-Rock outcrop complex, 30 to 70 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,800 to 10,200 feet (1,768 to 3,110 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F.  
(2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

### Map Unit Composition

Dromedary and similar soils: 70 percent

Rock outcrop: 15 percent

Minor components: 15 percent

### Component Descriptions

#### Dromedary soils

*Landform:* Mountain slopes

*Parent material:* Colluvium and till derived from sandstone, shale, and conglomerate

*Slope:* 30 to 70 percent, northwest to northeast aspects

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 5.6 inches (low)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Stony Loam (Douglas-fir)

*Potential native vegetation:* mountain snowberry, Oregongrape, boxleaf myrtle, elk sedge, quaking aspen, Nevada bluegrass, common juniper, heartleaf arnica, slender wheatgrass

*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A—0 to 6 inches; gravelly loam  
 E—6 to 22 inches; very cobbly sandy loam  
 Bt/E—22 to 44 inches; very cobbly sandy clay loam  
 Bt1—44 to 51 inches; very cobbly sandy clay loam  
 Bt2—51 to 60 inches; very cobbly sandy clay loam

**Rock outcrop**

*Landforms:* Escarpments, ridges

*Seasonal water table minimum depth:* Greater than 6 feet

*Land capability subclass (nonirrigated):* 8

**Minor Components**

Parkcity and similar soils

*Composition:* About 6 percent

*Landform:* Mountain slopes

*Slope:* 30 to 70 percent, northeast to northwest aspects

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Aspen)

Starley Family and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 30 to 70 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Loam (Mountain Big Sagebrush)

Crandall and similar soils

*Composition:* About 4 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent, southeast to southwest aspects

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)

**119—Duchesne very cobbly sandy loam, 2 to 15 percent slopes**

**Map Unit Setting**

*MLRA:* 47

*Elevation:* 8,400 to 10,600 feet (2,560 to 3,230 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

**Map Unit Composition**

Duchesne and similar soils: 85 percent

Minor components: 15 percent

**Component Descriptions**

**Duchesne soils**

*Landform:* Mountain slopes

*Parent material:* Till and slope alluvium derived from sandstone, quartzite, and shale

*Slope:* 2 to 15 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 5.4 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Medium

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Stony Sandy Loam (Lodgepole Pine)

*Potential native vegetation:* elk sedge, nodding bluegrass, nodding brome, pinegrass, Oregongrape, boxleaf myrtle, common juniper, fleabane, grouse whortleberry, heartleaf arnica

*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A—0 to 4 inches; very cobbly sandy loam  
 E—4 to 11 inches; gravelly fine sandy loam  
 E/Bt—11 to 18 inches; gravelly fine sandy loam  
 Bt/E—18 to 30 inches; very cobbly sandy clay loam

Bt1—30 to 42 inches; very cobbly sandy clay loam

Bt2—42 to 60 inches; very cobbly sandy clay loam

### Minor Components

Uinta and similar soils

*Composition:* About 6 percent

*Landform:* Mountain slopes

*Slope:* 8 to 30 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

Skutum and similar soils

*Composition:* About 4 percent

*Landform:* Mountain slopes

*Slope:* 2 to 15 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* High Mountain Loam (Aspen)

Sessions and similar soils

*Composition:* About 3 percent

*Landform:* Till plains

*Slope:* 2 to 15 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Loam (Silver Sagebrush)

Haydenfork and similar soils

*Composition:* About 2 percent

*Landform:* Kettles

*Slope:* 0 to 3 percent

*Drainage class:* Very poorly drained

*Ecological site:* Wet Fresh Meadow (Sedge)

## 120—Duchesne very cobbly sandy loam, 15 to 30 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 8,200 to 10,200 feet (2,500 to 3,110 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

### Map Unit Composition

Duchesne and similar soils: 85 percent

Minor components: 15 percent

### Component Descriptions

#### Duchesne soils

*Landform:* Mountain slopes

*Parent material:* Till and slope alluvium derived from sandstone, quartzite, and shale

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 5.4 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Stony Sandy Loam (Lodgepole Pine)

*Potential native vegetation:* elk sedge, nodding bluegrass, nodding brome, pinegrass, Oregongrape, boxleaf myrtle, common juniper, fleabane, grouse whortleberry, heartleaf arnica

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A—0 to 4 inches; very cobbly sandy loam

E—4 to 11 inches; gravelly fine sandy loam

E/Bt—11 to 18 inches; gravelly fine sandy loam

Bt/E—18 to 30 inches; very cobbly sandy clay loam

Bt1—30 to 42 inches; very cobbly sandy clay loam

Bt2—42 to 60 inches; very cobbly sandy clay loam

### Minor Components

Uinta and similar soils

*Composition:* About 6 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

**Skutum and similar soils**

*Composition:* About 4 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Loam (Aspen)

**Sessions and similar soils**

*Composition:* About 3 percent  
*Landform:* Till plains  
*Slope:* 2 to 15 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Loam (Silver Sagebrush)

**Haydenfork and similar soils**

*Composition:* About 2 percent  
*Landform:* Kettles  
*Slope:* 0 to 3 percent  
*Drainage class:* Very poorly drained  
*Ecological site:* Wet Fresh Meadow (Sedge)

## **121—Duchesne very cobbly sandy loam, 30 to 60 percent slopes**

### **Map Unit Setting**

*MLRA:* 47  
*Elevation:* 8,700 to 10,800 feet (2,653 to 3,293 meters)  
*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)  
*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)  
*Frost-free period:* 20 to 60 days

### **Map Unit Composition**

Duchesne and similar soils: 85 percent  
 Minor components: 15 percent

### **Component Descriptions**

**Duchesne soils**

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone, quartzite, and shale  
*Slope:* 30 to 60 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 5.4 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Stony Sandy Loam (Lodgepole Pine)

*Potential native vegetation:* elk sedge, nodding bluegrass, nodding brome, pinegrass, Oregongrape, boxleaf myrtle, common juniper, fleabane, grouse whortleberry, heartleaf arnica

*Land capability subclass (nonirrigated):* 7e

**Typical Profile:**

A—0 to 4 inches; very cobbly sandy loam

E—4 to 11 inches; gravelly fine sandy loam

E/Bt—11 to 18 inches; gravelly fine sandy loam  
 Bt/E—18 to 30 inches; very cobbly sandy clay loam

Bt1—30 to 42 inches; very cobbly sandy clay loam

Bt2—42 to 60 inches; very cobbly sandy clay loam

**Minor Components****Uinta and similar soils**

*Composition:* About 6 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

**Skutum and similar soils**

*Composition:* About 4 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* High Mountain Loam (Aspen)

**Sessions and similar soils**

*Composition:* About 3 percent

*Landform:* Till plains

*Slope:* 2 to 15 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Loam (Silver Sagebrush)

### Haydenfork and similar soils

*Composition:* About 2 percent

*Landform:* Kettles

*Slope:* 0 to 3 percent

*Drainage class:* Very poorly drained

*Ecological site:* Wet Fresh Meadow (Sedge)

## 122—Duchesne-Haydenfork complex, 0 to 40 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 8,100 to 10,800 feet (2,470 to 3,293 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F.  
(2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

### Map Unit Composition

Duchesne and similar soils: 60 percent

Haydenfork and similar soils: 25 percent

Minor components: 15 percent

### Component Descriptions

#### Duchesne soils

*Landform:* Kame moraines

*Parent material:* Till derived from sandstone, quartzite, and shale

*Slope:* 2 to 40 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 5.4 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Stony Sandy Loam  
(Lodgepole Pine)

*Potential native vegetation:* elk sedge, nodding bluegrass, nodding brome, pinegrass, Oregon grape, boxleaf myrtle, common juniper, fleabane, grouse whortleberry, heartleaf arnica

*Land capability subclass (nonirrigated):* 7e

### Typical Profile:

A—0 to 4 inches; very cobbly sandy loam

E—4 to 11 inches; gravelly fine sandy loam

E/Bt—11 to 18 inches; gravelly fine sandy loam

Bt/E—18 to 30 inches; very cobbly sandy clay loam

Bt1—30 to 42 inches; very cobbly sandy clay loam

Bt2—42 to 60 inches; very cobbly sandy clay loam

### Haydenfork soils

*Landform:* Kettles

*Parent material:* Outwash derived from sandstone and quartzite

*Slope:* 0 to 3 percent

*Drainage class:* Very poorly drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.8 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Ponding hazard:* Occasional

*Seasonal water table minimum depth:* About 15 inches

*Runoff class:* Low

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Wet Fresh Meadow (Sedge)

*Potential native vegetation:* sedge, mountain rush, tufted hairgrass, shrubby cinquefoil, white marshmarigold, willow

*Land capability subclass (nonirrigated):* 7w

### Typical Profile:

Oi—0 to 3 inches; slightly decomposed plant material

A1—3 to 9 inches; clay loam

A2—9 to 17 inches; clay loam

A3—17 to 21 inches; clay loam

Bg—21 to 25 inches; clay loam

Cg—25 to 36 inches; sandy clay loam

C1—36 to 55 inches; sandy clay loam

C2—55 to 63 inches; gravelly sandy clay loam

### Minor Components

#### Sessions and similar soils

*Composition:* About 5 percent

*Landform:* Till plains



*Slope:* 2 to 15 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Loam (Silver Sagebrush)

#### Uinta and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 8 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

#### Skutum and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 2 to 15 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Loam (Aspen)

## 123—Dumps, mines

### Map Unit Setting

*MLRA:* 47

### Map Unit Composition

Dumps, mines: 100 percent

### Component Descriptions

#### Dumps, mines

*Description:* Mine spoil or earthy fill  
*Land capability subclass (nonirrigated):* 8

## 124—Dunford-Ayoub-Melling complex, 15 to 30 percent slopes

### Map Unit Setting

*MLRA:* 47  
*Elevation:* 6,400 to 7,700 feet (1,950 to 2,348 meters)  
*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 90 days

### Map Unit Composition

Dunford and similar soils: 45 percent

Ayoub and similar soils: 20 percent  
 Melling and similar soils: 20 percent  
 Minor components: 15 percent

### Component Descriptions

#### Dunford soils

*Landform:* Mountain slopes  
*Parent material:* Colluvium and slope alluvium derived from andesite  
*Slope:* 15 to 30 percent, north aspect  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 4.4 inches (low)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Gravelly Loam (Oak)  
*Potential native vegetation:* Gambel's oak, bluebunch wheatgrass, mountain snowberry, slender wheatgrass, Saskatoon serviceberry, antelope bitterbrush, birchleaf mountain mahogany, elk sedge, mountain brome, thickleaf peavine  
*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A—0 to 10 inches; cobbly loam  
 Bt1—10 to 21 inches; gravelly clay loam  
 Bt2—21 to 36 inches; gravelly clay loam  
 R—36 to 46 inches; bedrock

#### Ayoub soils

*Landform:* Mountain slopes  
*Parent material:* Colluvium and slope alluvium derived from andesite  
*Slope:* 15 to 30 percent, north aspect  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 4.0 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, slender wheatgrass, Letterman's needlegrass, mountain big sagebrush, Columbia needlegrass, Nevada bluegrass, antelope bitterbrush, birchleaf mountain mahogany, muttongrass, sticky geranium, thickleaf peavine

*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A—0 to 6 inches; cobbly loam

Bt1—6 to 12 inches; gravelly clay loam

Bt2—12 to 18 inches; gravelly clay loam

Bt3—18 to 23 inches; gravelly clay loam

C—23 to 35 inches; very cobbly loam

R—35 to 45 inches; bedrock

### **Melling soils**

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from andesite over residuum weathered from andesite

*Slope:* 15 to 30 percent, north aspect

*Depth to restrictive feature:* 12 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 1.5 inches (very low)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Shallow Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, muttongrass, Indian ricegrass, arrowleaf balsamroot, bottlebrush squirreltail, mountain snowberry, western wheatgrass

*Land capability subclass (nonirrigated):* 7s

*Typical Profile:*

A—0 to 6 inches; extremely stony loam

Bt—6 to 19 inches; very cobbly clay loam

R—19 to 29 inches; bedrock

### **Minor Components**

Rock outcrop

*Composition:* About 5 percent

*Landforms:* Escarpments, ridges

Hades and similar soils

*Composition:* About 4 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent, west to east aspects

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)

Echocreek and similar soils

*Composition:* About 3 percent

*Landform:* Stream terraces

*Slope:* 2 to 10 percent

*Drainage class:* Well drained

*Ecological site:* Upland Loam (Basin Wildrye)

Fewkes and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

## **125—Dunford-Ayoub-Melling complex, 30 to 60 percent slopes**

### **Map Unit Setting**

*MLRA:* 47

*Elevation:* 6,200 to 8,000 feet (1,890 to 2,438 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### **Map Unit Composition**

Dunford and similar soils: 45 percent

Ayoub and similar soils: 20 percent

Melling and similar soils: 20 percent  
 Minor components: 15 percent

### Component Descriptions

#### Dunford soils

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from andesite  
*Slope:* 30 to 60 percent, north aspect  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 4.4 inches (low)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Gravelly Loam (Oak)  
*Potential native vegetation:* Gambel's oak, bluebunch wheatgrass, mountain snowberry, slender wheatgrass, Saskatoon serviceberry, antelope bitterbrush, birchleaf mountain mahogany, elk sedge, mountain brome, thistleleaf peavine  
*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A—0 to 10 inches; cobbly loam  
 Bt1—10 to 21 inches; gravelly clay loam  
 Bt2—21 to 36 inches; gravelly clay loam  
 R—36 to 46 inches; bedrock

#### Ayoub soils

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from andesite  
*Slope:* 30 to 60 percent, north aspect  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 4.0 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high

*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, slender wheatgrass, Letterman's needlegrass, mountain big sagebrush, Columbia needlegrass, Nevada bluegrass, antelope bitterbrush, birchleaf mountain mahogany, muttongrass, sticky geranium, thistleleaf peavine  
*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A—0 to 6 inches; cobbly loam  
 Bt1—6 to 12 inches; gravelly clay loam  
 Bt2—12 to 18 inches; gravelly clay loam  
 Bt3—18 to 23 inches; gravelly clay loam  
 C—23 to 35 inches; very cobbly loam  
 R—35 to 45 inches; bedrock

#### Melling soils

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from andesite  
*Slope:* 30 to 60 percent, north aspect  
*Depth to restrictive feature:* 12 to 20 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 1.5 inches (very low)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Shallow Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, muttongrass, Indian ricegrass, arrowleaf balsamroot, bottlebrush squirreltail, mountain snowberry, western wheatgrass  
*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A—0 to 6 inches; extremely stony loam

Bt—6 to 19 inches; very cobbly clay loam  
R—19 to 29 inches; bedrock

### Minor Components

#### Rock outcrop

*Composition:* About 5 percent  
*Landforms:* Escarpments, ridges

#### Hades and similar soils

*Composition:* About 4 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent, west to east aspects  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Oak)

#### Echocreek and similar soils

*Composition:* About 3 percent  
*Landform:* Stream terraces  
*Slope:* 2 to 10 percent  
*Drainage class:* Well drained  
*Ecological site:* Upland Loam (Basin Wildrye)

#### Fewkes and similar soils

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

## 126—Echocreek loam, 2 to 10 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,400 to 7,400 feet (1,647 to 2,257 meters)

*Mean annual precipitation:* 14 to 18 inches (355 to 455 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 70 to 100 days

### Map Unit Composition

Echocreek and similar soils: 85 percent

Minor components: 15 percent

### Component Descriptions

#### Echocreek soils

*Landform:* Stream terraces

*Parent material:* Alluvium derived from sandstone, quartzite, and shale

*Slope:* 2 to 10 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 9.4 inches (high)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Low

*Calcium carbonate maximum:* About 15 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Upland Loam (Basin Wildrye)

*Potential native vegetation:* basin wildrye, basin big sagebrush, Nevada bluegrass, rubber rabbitbrush, tapertip hawksbeard, western wheatgrass

*Land capability subclass (irrigated):* 3e

*Land capability subclass (nonirrigated):* 4s

#### Typical Profile:

Ap—0 to 7 inches; loam

A1—7 to 18 inches; loam

A2—18 to 26 inches; loam

Bk1—26 to 38 inches; loam

Bk2—38 to 45 inches; loam

Bk3—45 to 60 inches; loam

### Minor Components

#### Kovich and similar soils

*Composition:* About 4 percent

*Landform:* Flood plains

*Slope:* 0 to 3 percent

*Drainage class:* Poorly drained

*Ecological site:* Wet Fresh Meadow (Sedge)

#### Toddspan and similar soils

*Composition:* About 3 percent

*Landform:* Flood plains

*Slope:* 0 to 3 percent

*Drainage class:* Poorly drained

*Ecological site:* Wet Fresh Meadow (Sedge)

#### Wanship and similar soils

*Composition:* About 3 percent

*Landform:* Stream terraces

*Slope:* 0 to 3 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Semiwet Fresh Meadow (Redtop)

#### Snyderville and similar soils

*Composition:* About 3 percent

*Landforms:* Outwash terraces, stream terraces

*Slope:* 1 to 5 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)

Dastrup and similar soils

*Composition:* About 2 percent  
*Landform:* Fan remnants  
*Slope:* 2 to 15 percent  
*Drainage class:* Well drained  
*Ecological site:* Upland Loam (Mountain Big Sagebrush)

## 127—Echocreek-Kovich loams, 0 to 10 percent slopes

### Map Unit Setting

*MLRA:* 47  
*Elevation:* 5,200 to 8,000 feet (1,585 to 2,438 meters)  
*Mean annual precipitation:* 14 to 22 inches (355 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 100 days

### Map Unit Composition

Echocreek and similar soils: 65 percent  
 Kovich and similar soils: 20 percent  
 Minor components: 15 percent

### Component Descriptions

#### Echocreek soils

*Landform:* Stream terraces  
*Parent material:* Alluvium derived from sandstone, quartzite, and shale  
*Slope:* 2 to 10 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 9.4 inches (high)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Medium  
*Calcium carbonate maximum:* About 15 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Upland Loam (Basin Wildrye)  
*Potential native vegetation:* basin wildrye, basin big

sagebrush, Nevada bluegrass, rubber rabbitbrush, tapertip hawksbeard, western wheatgrass  
*Land capability subclass (irrigated):* 3e  
*Land capability subclass (nonirrigated):* 4s

#### Typical Profile:

Ap—0 to 7 inches; loam  
 A1—7 to 18 inches; loam  
 A2—18 to 26 inches; loam  
 Bk1—26 to 38 inches; loam  
 Bk2—38 to 45 inches; loam  
 Bk3—45 to 60 inches; loam

#### Kovich soils

*Landform:* Flood plains  
*Parent material:* Alluvium derived from sandstone, quartzite, and shale  
*Slope:* 0 to 3 percent  
*Drainage class:* Poorly drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 7.1 inches (moderate)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* Occasional  
*Seasonal water table minimum depth:* About 18 inches  
*Runoff class:* Low  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Wet Fresh Meadow (Sedge)  
*Potential native vegetation:* sedge, mountain rush, tufted hairgrass, shrubby cinquefoil, white marshmarigold, willow  
*Land capability subclass (irrigated):* 6w  
*Land capability subclass (nonirrigated):* 7w

#### Typical Profile:

A1—0 to 9 inches; loam  
 A2—9 to 22 inches; clay loam  
 A3—22 to 29 inches; clay loam  
 2C—29 to 44 inches; fine sandy loam  
 3C—44 to 60 inches; very gravelly loamy fine sand

#### Minor Components

Toddspan and similar soils  
*Composition:* About 10 percent  
*Landform:* Flood plains  
*Slope:* 0 to 3 percent



*Drainage class:* Poorly drained  
*Ecological site:* Wet Fresh Meadow (Sedge)

Wanship and similar soils

*Composition:* About 5 percent  
*Landform:* Stream terraces  
*Slope:* 0 to 3 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Semiwet Fresh Meadow (Redtop)

## 128—Fewkes gravelly loam, 2 to 8 percent slopes

### Map Unit Setting

*MLRA:* 47  
*Elevation:* 5,600 to 6,800 feet (1,708 to 2,073 meters)  
*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 90 days

### Map Unit Composition

Fewkes and similar soils: 85 percent  
 Minor components: 15 percent

### Component Descriptions

#### Fewkes soils

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from sandstone, quartzite, and shale  
*Slope:* 2 to 8 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 9.0 inches (high)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Medium  
*Calcium carbonate maximum:* About 40 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass  
*Land capability subclass (irrigated):* 3e  
*Land capability subclass (nonirrigated):* 3e

#### Typical Profile:

A—0 to 12 inches; gravelly loam  
 Bt1—12 to 17 inches; clay loam  
 Bt2—17 to 22 inches; clay loam  
 Btk1—22 to 28 inches; clay loam  
 Btk2—28 to 40 inches; clay loam  
 Bk1—40 to 50 inches; clay loam  
 Bk2—50 to 60 inches; gravelly clay loam

### Minor Components

Ant Flat and similar soils

*Composition:* About 5 percent  
*Landform:* Fan remnants  
*Slope:* 2 to 8 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Hades and similar soils

*Composition:* About 4 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Oak)

Lucky Star and similar soils

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 5 to 30 percent, northwest to northeast aspects  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Aspen)

Yeates Hollow and similar soils

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 3 to 15 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

## 129—Fewkes gravelly loam, 8 to 15 percent slopes

### Map Unit Setting

*MLRA:* 47  
*Elevation:* 5,600 to 7,600 feet (1,708 to 2,317 meters)  
*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F.  
(4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Fewkes and similar soils: 85 percent

Minor components: 15 percent

### Component Descriptions

#### Fewkes soils

*Landform:* Fan remnants

*Parent material:* Slope alluvium derived from sandstone, quartzite, and shale

*Slope:* 8 to 15 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.0 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Medium

*Calcium carbonate maximum:* About 40 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (irrigated):* 4e

*Land capability subclass (nonirrigated):* 4e

#### Typical Profile:

A—0 to 12 inches; gravelly loam

Bt1—12 to 17 inches; clay loam

Bt2—17 to 22 inches; clay loam

Btk1—22 to 28 inches; clay loam

Btk2—28 to 40 inches; clay loam

Bk1—40 to 50 inches; clay loam

Bk2—50 to 60 inches; gravelly clay loam

### Minor Components

Ant Flat and similar soils

*Composition:* About 5 percent

*Landform:* Fan remnants

*Slope:* 8 to 15 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Hades and similar soils

*Composition:* About 4 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)

Lucky Star and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 5 to 30 percent, northwest to northeast aspects

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Aspen)

Yeates Hollow and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 3 to 15 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

## 130—Fewkes gravelly loam, 15 to 30 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,600 to 8,000 feet (1,707 to 2,438 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F.  
(4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Fewkes and similar soils: 85 percent

Minor components: 15 percent

### Component Descriptions

#### Fewkes soils

*Landform:* Mountain slopes

*Parent material:* Slope alluvium and colluvium derived from sandstone, quartzite, and shale

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.0 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* About 40 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass  
*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A—0 to 12 inches; gravelly loam  
 Bt1—12 to 17 inches; clay loam  
 Bt2—17 to 22 inches; clay loam  
 Btk1—22 to 28 inches; clay loam  
 Btk2—28 to 40 inches; clay loam  
 Bk1—40 to 50 inches; clay loam  
 Bk2—50 to 60 inches; gravelly clay loam

### Minor Components

Ant Flat and similar soils

*Composition:* About 5 percent  
*Landform:* Fan remnants  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Hades and similar soils

*Composition:* About 4 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Oak)

Lucky Star and similar soils

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent, north to northeast aspects  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Aspen)

Yeates Hollow and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

## 131—Fewkes-Heiners gravelly loams, 30 to 70 percent slopes

### Map Unit Setting

*MLRA:* 47  
*Elevation:* 5,400 to 7,500 feet (1,645 to 2,286 meters)  
*Mean annual precipitation:* 14 to 22 inches (355 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 100 days

### Map Unit Composition

Fewkes and similar soils: 60 percent  
 Heiners and similar soils: 25 percent  
 Minor components: 15 percent

### Component Descriptions

#### Fewkes soils

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone, quartzite, and shale  
*Slope:* 30 to 60 percent, south aspect  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 9.0 inches (high)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* About 40 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass  
*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A—0 to 12 inches; gravelly loam  
 Bt1—12 to 17 inches; clay loam  
 Bt2—17 to 22 inches; clay loam  
 Btk1—22 to 28 inches; clay loam  
 Btk2—28 to 40 inches; clay loam  
 Bk1—40 to 50 inches; clay loam  
 Bk2—50 to 60 inches; gravelly clay loam

**Heiners soils**

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone, conglomerate, and shale  
*Slope:* 30 to 70 percent, south aspect  
*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 1.7 inches (very low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* About 30 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, Indian ricegrass, Nevada bluegrass, antelope bitterbrush, bottlebrush squirreltail, needleandthread  
*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A1—0 to 3 inches; gravelly loam  
 A2—3 to 8 inches; gravelly loam  
 Bw—8 to 12 inches; very gravelly loam  
 C—12 to 19 inches; very gravelly loam  
 Cr—19 to 29 inches; bedrock

**Minor Components**

Rock outcrop  
*Composition:* About 5 percent  
*Landforms:* Escarpments, ridges

Hades and similar soils  
*Composition:* About 4 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent

*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Oak)

Horrocks and similar soils  
*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

Richsum and similar soils  
*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Loam (Mountain Big Sagebrush)

**132—Fewkes-Hades complex, 15 to 30 percent slopes****Map Unit Setting**

*MLRA:* 47 (Fig. 4)  
*Elevation:* 5,400 to 8,300 feet (1,645 to 2,530 meters)



**Figure 4.—Water trough and corral on Fewkes-Hades complex, 15 to 30 percent slopes. Lucky Star-Fewkes gravelly loams, 30 to 60 percent slopes is under aspen in the background.**



*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Fewkes and similar soils: 55 percent

Hades and similar soils: 30 percent

Minor components: 15 percent

### Component Descriptions

#### Fewkes soils

*Landform:* Mountain slopes

*Parent material:* Slope alluvium and colluvium derived from sandstone, quartzite, and shale

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.0 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* About 40 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A—0 to 12 inches; gravelly loam

Bt1—12 to 17 inches; clay loam

Bt2—17 to 22 inches; clay loam

Btk1—22 to 28 inches; clay loam

Btk2—28 to 40 inches; clay loam

Bk1—40 to 50 inches; clay loam

Bk2—50 to 60 inches; gravelly clay loam

#### Hades soils

*Landform:* Mountain slopes

*Parent material:* Colluvium and slope alluvium derived from sandstone, quartzite, and shale

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.7 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* About 3 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Oak)

*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass, elk sedge, mountain big sagebrush, slender wheatgrass, thistleleaf peavine

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A1—0 to 3 inches; loam

A2—3 to 18 inches; loam

Bt1—18 to 33 inches; clay loam

Bt2—33 to 44 inches; clay loam

Bt3—44 to 60 inches; clay loam

### Minor Components

Horrocks and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

Yeates Hollow and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

Ant Flat and similar soils

*Composition:* About 3 percent

*Landform:* Fan remnants

*Slope:* 15 to 30 percent

*Drainage class:* Well drained



*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Lucky Star and similar soils

*Composition:* About 2 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent, northwest to northeast aspects

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Aspen)

### 133—Fewkes-Hades complex, 30 to 60 percent slopes

#### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,600 to 8,000 feet (1,707 to 2,438 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

#### Map Unit Composition

Fewkes and similar soils: 55 percent

Hades and similar soils: 30 percent

Minor components: 15 percent

#### Component Descriptions

##### Fewkes soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone, quartzite, and shale

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.0 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 40 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada

bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A—0 to 12 inches; gravelly loam

Bt1—12 to 17 inches; clay loam

Bt2—17 to 22 inches; clay loam

Btk1—22 to 28 inches; clay loam

Btk2—28 to 40 inches; clay loam

Bk1—40 to 50 inches; clay loam

Bk2—50 to 60 inches; gravelly clay loam

#### Hades soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone, metaquartzite, and shale

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.7 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 3 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Oak)

*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass, elk sedge, mountain big sagebrush, slender wheatgrass, thickleaf peavine

*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A1—0 to 3 inches; loam

A2—3 to 18 inches; loam

Bt1—18 to 33 inches; clay loam

Bt2—33 to 44 inches; clay loam

Bt3—44 to 60 inches; clay loam

#### Minor Components

Horrocks and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

Yeates Hollow and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

Ant Flat and similar soils

*Composition:* About 3 percent  
*Landform:* Fan remnants  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Lucky Star and similar soils

*Composition:* About 2 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent, northwest to northeast aspects  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Aspen)

### 134—Fewkes-Yeates Hollow complex, 5 to 15 percent slopes

#### Map Unit Setting

*MLRA:* 47  
*Elevation:* 7,000 to 7,600 feet (2,135 to 2,318 meters)  
*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 90 days

#### Map Unit Composition

Fewkes and similar soils: 55 percent  
 Yeates Hollow and similar soils: 30 percent  
 Ant Flat and similar soils: 5 percent  
 Minor components: 10 percent

#### Component Descriptions

##### Fewkes soils

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium derived from sandstone, quartzite, and shale  
*Slope:* 5 to 15 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 9.0 inches (high)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Medium  
*Calcium carbonate maximum:* About 40 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass  
*Land capability subclass (nonirrigated):* 4e

##### Typical Profile:

A—0 to 12 inches; gravelly loam  
 Bt1—12 to 17 inches; clay loam  
 Bt2—17 to 22 inches; clay loam  
 Btk1—22 to 28 inches; clay loam  
 Btk2—28 to 40 inches; clay loam  
 Bk1—40 to 50 inches; clay loam  
 Bk2—50 to 60 inches; gravelly clay loam

##### Yeates Hollow soils

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium derived from sandstone, conglomerate, and quartzite  
*Slope:* 3 to 15 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 4.2 inches (low)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Medium  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, slender wheatgrass, Letterman's needlegrass, Nevada bluegrass, Saskatoon serviceberry, antelope bitterbrush, birchleaf mountain mahogany, common yarrow, elk sedge, sheep fescue

*Land capability subclass (nonirrigated):* 6s

*Typical Profile:*

A—0 to 12 inches; very stony loam  
 Bt1—12 to 25 inches; very cobbly clay  
 Bt2—25 to 37 inches; very cobbly clay  
 Bt3—37 to 43 inches; extremely cobbly clay loam  
 R—43 to 53 inches; bedrock

### Minor Components

Heiners and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 4 to 15 percent  
*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

Richsum and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 4 to 15 percent, southeast to southwest aspects  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Loam (Mountain Big Sagebrush)

### Component Descriptions

#### Ant Flat soils

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from conglomerate and/or slope alluvium derived from sandstone and shale  
*Slope:* 2 to 15 percent

*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 9.9 inches (high)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Medium  
*Calcium carbonate maximum:* About 30 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (irrigated):* 4e

*Land capability subclass (nonirrigated):* 4e

*Typical Profile:*

A—0 to 13 inches; loam  
 Bt1—13 to 19 inches; clay loam  
 Bt2—19 to 30 inches; clay  
 Bk1—30 to 45 inches; clay loam  
 Bk2—45 to 60 inches; clay loam

## 135—Fewkes-Yeates Hollow complex, 15 to 30 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 6,600 to 7,700 feet (2,012 to 2,348 meters)  
*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Fewkes and similar soils: 55 percent  
 Yeates Hollow and similar soils: 30 percent  
 Minor components: 15 percent

### Component Descriptions

#### Fewkes soils

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium and colluvium derived from sandstone, quartzite, and shale  
*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.0 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* About 40 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A—0 to 12 inches; gravelly loam

Bt1—12 to 17 inches; clay loam

Bt2—17 to 22 inches; clay loam

Btk1—22 to 28 inches; clay loam

Btk2—28 to 40 inches; clay loam

Bk1—40 to 50 inches; clay loam

Bk2—50 to 60 inches; gravelly clay loam

### **Yeates Hollow soils**

*Landform:* Mountain slopes

*Parent material:* Colluvium and slope alluvium derived from sandstone, conglomerate, and quartzite

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 4.2 inches (low)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass,

mountain big sagebrush, slender wheatgrass, Letterman's needlegrass, Nevada bluegrass, Saskatoon serviceberry, antelope bitterbrush, birchleaf mountain mahogany, common yarrow, elk sedge, sheep fescue

*Land capability subclass (nonirrigated):* 6s

*Typical Profile:*

A—0 to 12 inches; very stony loam

Bt1—12 to 25 inches; very cobbly clay

Bt2—25 to 37 inches; very cobbly clay

Bt3—37 to 43 inches; extremely cobbly clay loam

R—43 to 53 inches; bedrock

### **Minor Components**

Ant Flat and similar soils

*Composition:* About 5 percent

*Landform:* Fan remnants

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Heiners and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

Richsum and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent, southeast to southwest aspects

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* Upland Loam (Mountain Big Sagebrush)

## **136—Hades-Agassiz-Rock outcrop complex, 30 to 70 percent slopes**

### **Map Unit Setting**

*MLRA:* 47

*Elevation:* 5,400 to 8,200 feet (1,645 to 2,500 meters)



*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Hades and similar soils: 50 percent

Agassiz and similar soils: 30 percent

Rock outcrop: 10 percent

Minor components: 10 percent

### Component Descriptions

#### Hades soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone, quartzite, and shale

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.7 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 3 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Oak)

*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass, elk sedge, mountain big sagebrush, slender wheatgrass, thickleaf peavine

*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A1—0 to 3 inches; loam

A2—3 to 18 inches; loam

Bt1—18 to 33 inches; clay loam

Bt2—33 to 44 inches; clay loam

Bt3—44 to 60 inches; clay loam

#### Agassiz soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from limestone

*Slope:* 30 to 70 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 1.3 inches (very low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 3 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Shallow Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, muttongrass, Indian ricegrass, arrowleaf balsamroot, bottlebrush squirreltail, mountain snowberry, western wheatgrass

*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A1—0 to 6 inches; very cobbly loam

A2—6 to 14 inches; very cobbly loam

R—14 to 24 inches; bedrock

#### Rock outcrop

*Landforms:* Ridges, escarpments

*Seasonal water table minimum depth:* Greater than 6 feet

*Land capability subclass (nonirrigated):* 8

#### Minor Components

Fewkes and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Horrocks and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained



*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

Lucky Star and similar soils

*Composition:* About 2 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent, northwest to northeast aspects

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Aspen)

### 137—Hades-Fewkes complex, 15 to 30 percent slopes

#### Map Unit Setting

*MLRA:* 47

*Elevation:* 6,200 to 7,600 feet (1,890 to 2,318 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

#### Map Unit Composition

Hades and similar soils: 55 percent

Fewkes and similar soils: 30 percent

Minor components: 15 percent

#### Component Descriptions

##### Hades soils

*Landform:* Mountain slopes

*Parent material:* Slope alluvium and colluvium derived from sandstone, quartzite, and shale

*Slope:* 15 to 30 percent, north aspect

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.7 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* About 3 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Oak)

*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass,

elk sedge, mountain big sagebrush, slender wheatgrass, thickleaf peavine

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A1—0 to 3 inches; loam

A2—3 to 18 inches; loam

Bt1—18 to 33 inches; clay loam

Bt2—33 to 44 inches; clay loam

Bt3—44 to 60 inches; clay loam

##### Fewkes soils

*Landform:* Mountain slopes

*Parent material:* Slope alluvium and colluvium derived from sandstone, quartzite, and shale

*Slope:* 15 to 30 percent, south aspect

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.0 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* About 40 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A—0 to 12 inches; gravelly loam

Bt1—12 to 17 inches; clay loam

Bt2—17 to 22 inches; clay loam

Btk1—22 to 28 inches; clay loam

Btk2—28 to 40 inches; clay loam

Bk1—40 to 50 inches; clay loam

Bk2—50 to 60 inches; gravelly clay loam

##### Minor Components

Ant Flat and similar soils

*Composition:* About 5 percent

*Landform:* Fan remnants

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

#### Horrocks and similar soils

*Composition:* About 4 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

#### Lucky Star and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent, northwest to northeast aspects

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Aspen)

#### Yeates Hollow and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

### 138—Hades-Fewkes complex, 30 to 60 percent slopes

#### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,800 to 8,000 feet (1,768 to 2,438 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

#### Map Unit Composition

Hades and similar soils: 55 percent

Fewkes and similar soils: 30 percent

Minor components: 15 percent

#### Component Descriptions

##### Hades soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone, quartzite, and shale

*Slope:* 30 to 60 percent, west to east aspects

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.7 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 3 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Oak)

*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass, elk sedge, mountain big sagebrush, slender wheatgrass, thistleleaf peavine

*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A1—0 to 3 inches; loam

A2—3 to 18 inches; loam

Bt1—18 to 33 inches; clay loam

Bt2—33 to 44 inches; clay loam

Bt3—44 to 60 inches; clay loam

##### Fewkes soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone, quartzite, and shale

*Slope:* 30 to 60 percent, east to west aspects

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.0 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 40 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada

bluegrass, elk sedge, mountain big sagebrush,  
slender wheatgrass

*Land capability subclass (nonirrigated): 7e*

*Typical Profile:*

A—0 to 12 inches; gravelly loam  
Bt1—12 to 17 inches; clay loam  
Bt2—17 to 22 inches; clay loam  
Btk1—22 to 28 inches; clay loam  
Btk2—28 to 40 inches; clay loam  
Bk1—40 to 50 inches; clay loam  
Bk2—50 to 60 inches; gravelly clay loam

**Minor Components**

Ant Flat and similar soils

*Composition:* About 5 percent  
*Landform:* Fan remnants  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Horrocks and similar soils

*Composition:* About 4 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

Lucky Star and similar soils

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent, northwest to northeast aspects  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Aspen)

Yeates Hollow and similar soils

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

**139—Harter gravelly loam, 2 to 15 percent slopes**

**Map Unit Setting**

*MLRA:* 47

*Elevation:* 6,100 to 7,000 feet (1,860 to 2,135 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F.  
(4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

**Map Unit Composition**

Harter and similar soils: 85 percent

Minor components: 15 percent

**Component Descriptions**

**Harter soils**

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from sandstone, quartzite, and shale  
*Slope:* 2 to 15 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 8.1 inches (moderate)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Medium  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass  
*Land capability subclass (irrigated):* 4e  
*Land capability subclass (nonirrigated):* 4e

*Typical Profile:*

A1—0 to 5 inches; gravelly loam  
A2—5 to 12 inches; gravelly loam  
AB—12 to 19 inches; gravelly loam  
Bt1—19 to 24 inches; gravelly clay loam  
Bt2—24 to 33 inches; gravelly clay  
Bt3—33 to 60 inches; gravelly clay

**Minor Components**

Yeates Hollow and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 3 to 15 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

Ant Flat and similar soils

*Composition:* About 4 percent

*Landform:* Fan remnants

*Slope:* 8 to 15 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Snyderville and similar soils

*Composition:* About 3 percent

*Landforms:* Outwash terraces, stream terraces

*Slope:* 5 to 10 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)

Henefer and similar soils

*Composition:* About 3 percent

*Landform:* Fan remnants

*Slope:* 3 to 15 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)

## **140—Heiners-Fewkes gravelly loams, 15 to 30 percent slopes**

### **Map Unit Setting**

*MLRA:* 47

*Elevation:* 6,800 to 7,700 feet (2,072 to 2,348 meters)

*Mean annual precipitation:* 14 to 22 inches (355 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 100 days

### **Map Unit Composition**

Heiners and similar soils: 60 percent

Fewkes and similar soils: 25 percent

Minor components: 15 percent

**Component Descriptions****Heiners soils**

*Landform:* Mountain slopes

*Parent material:* Slope alluvium derived from shale over residuum weathered from shale

*Slope:* 15 to 30 percent, south aspect

*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 1.7 inches (very low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* About 30 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Upland Loamy Shale (low Sagebrush)

*Potential native vegetation:* low sagebrush, bluebunch wheatgrass, Indian ricegrass, spiny phlox, western wheatgrass, yellow rabbitbrush

*Land capability subclass (nonirrigated):* 7s

### *Typical Profile:*

A1—0 to 3 inches; gravelly loam

A2—3 to 8 inches; gravelly loam

Bw—8 to 12 inches; very gravelly loam

C—12 to 19 inches; very gravelly loam

Cr—19 to 29 inches; bedrock

**Fewkes soils**

*Landform:* Mountain slopes

*Parent material:* Slope alluvium and colluvium derived from sandstone, quartzite, and shale

*Slope:* 15 to 30 percent, northwest to northeast aspects

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.0 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* About 40 percent

*Gypsum maximum:* None



*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A—0 to 12 inches; gravelly loam

Bt1—12 to 17 inches; clay loam

Bt2—17 to 22 inches; clay loam

Btk1—22 to 28 inches; clay loam

Btk2—28 to 40 inches; clay loam

Bk1—40 to 50 inches; clay loam

Bk2—50 to 60 inches; gravelly clay loam

### Minor Components

Hades and similar soils

*Composition:* About 10 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent, west to east aspects

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)

Horrocks and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent, southwest to southeast aspects

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

## 141—Heiners-Fewkes-Hades complex, 30 to 70 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,400 to 8,000 feet (1,645 to 2,438 meters)

*Mean annual precipitation:* 14 to 22 inches (355 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 100 days

### Map Unit Composition

Heiners and similar soils: 35 percent

Fewkes and similar soils: 25 percent

Hades and similar soils: 25 percent

Minor components: 15 percent

### Component Descriptions

#### Heiners soils

*Landform:* Ridges on mountain slopes

*Parent material:* Colluvium derived from sandstone, conglomerate, and shale

*Slope:* 30 to 70 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 1.7 inches (very low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 30 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, Indian ricegrass, Nevada bluegrass, antelope bitterbrush, bottlebrush squirreltail, needleandthread

*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A1—0 to 3 inches; gravelly loam

A2—3 to 8 inches; gravelly loam

Bw—8 to 12 inches; very gravelly loam

C—12 to 19 inches; very gravelly loam

Cr—19 to 29 inches; bedrock

#### Fewkes soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone, quartzite, and shale

*Slope:* 30 to 60 percent, southwest to southeast aspects

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 9.0 inches (high)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet



*Runoff class:* Very high  
*Calcium carbonate maximum:* About 40 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass  
*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A—0 to 12 inches; gravelly loam  
 Bt1—12 to 17 inches; clay loam  
 Bt2—17 to 22 inches; clay loam  
 Btk1—22 to 28 inches; clay loam  
 Btk2—28 to 40 inches; clay loam  
 Bk1—40 to 50 inches; clay loam  
 Bk2—50 to 60 inches; gravelly clay loam

**Hades soils**

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone, quartzite, and shale  
*Slope:* 30 to 60 percent, northwest to northeast aspects  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 9.7 inches (high)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* About 3 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Oak)  
*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass, elk sedge, mountain big sagebrush, slender wheatgrass, thickleaf peavine  
*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A1—0 to 3 inches; loam  
 A2—3 to 18 inches; loam

Bt1—18 to 33 inches; clay loam  
 Bt2—33 to 44 inches; clay loam  
 Bt3—44 to 60 inches; clay loam

**Minor Components**

Rock outcrop

*Composition:* About 5 percent  
*Landforms:* Ridges, escarpments

Lucky Star and similar soils

*Composition:* About 4 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent, northwest to northeast aspects  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Aspen)

Horrocks and similar soils

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

Richsum and similar soils

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent, southeast to southwest aspects  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Loam (Mountain Big Sagebrush)

**142—Henefer-Harter gravelly loams, 15 to 30 percent slopes**

**Map Unit Setting**

*MLRA:* 47

*Elevation:* 5,800 to 7,900 feet (1,768 to 2,408 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Henefer and similar soils: 45 percent  
 Harter and similar soils: 40 percent  
 Minor components: 15 percent

### Component Descriptions

#### Henefer soils

*Landforms:* Fan remnants, mountain slopes  
*Parent material:* Slope alluvium derived from sandstone, quartzite, and shale  
*Slope:* 15 to 30 percent, north aspect  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 7.0 inches (moderate)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Oak)  
*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass, elk sedge, mountain big sagebrush, slender wheatgrass, thickleaf peavine  
*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A1—0 to 7 inches; gravelly loam  
 A2—7 to 12 inches; gravelly loam  
 Bt1—12 to 21 inches; cobbly clay  
 Bt2—21 to 30 inches; cobbly clay  
 Bt3—30 to 37 inches; very gravelly clay loam  
 Bt4—37 to 43 inches; very gravelly clay loam  
 Bt5—43 to 50 inches; very cobbly sandy clay loam  
 BC—50 to 60 inches; very cobbly sandy clay loam

#### Harter soils

*Landforms:* Fan remnants, mountain slopes  
*Parent material:* Slope alluvium derived from sandstone, quartzite, and shale  
*Slope:* 15 to 30 percent, south aspect  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 8.1 inches (moderate)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A1—0 to 5 inches; gravelly loam  
 A2—5 to 12 inches; gravelly loam  
 AB—12 to 19 inches; gravelly loam  
 Bt1—19 to 24 inches; gravelly clay loam  
 Bt2—24 to 33 inches; gravelly clay  
 Bt3—33 to 60 inches; gravelly clay

### Minor Components

Yeates Hollow and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

Hades and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)

Fewkes and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

## 143—Horrocks-Agassiz very cobbly loams, 30 to 70 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,600 to 8,200 feet (1,707 to 2,500 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Horrocks and similar soils: 65 percent

Agassiz and similar soils: 20 percent

Minor components: 15 percent

### Component Descriptions

#### Horrocks soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone, conglomerate, and andesite

*Slope:* 30 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 5.0 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Stony Loam (Oak)

*Potential native vegetation:* Gambel's oak, bluebunch wheatgrass, slender wheatgrass, antelope bitterbrush, mountain big sagebrush, muttongrass

*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A—0 to 10 inches; very cobbly loam

Bt1—10 to 19 inches; very cobbly clay loam

Bt2—19 to 32 inches; very cobbly clay loam

Bt3—32 to 40 inches; very cobbly clay loam

BC—40 to 59 inches; very gravelly loam

R—59 to 60 inches; bedrock

#### Agassiz soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from limestone

*Slope:* 30 to 70 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 1.3 inches (very low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 3 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Shallow Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, muttongrass, Indian ricegrass, arrowleaf balsamroot, bottlebrush squirreltail, mountain snowberry, western wheatgrass

*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A1—0 to 6 inches; very cobbly loam

A2—6 to 14 inches; very cobbly loam

R—14 to 24 inches; bedrock

#### Minor Components

##### Hades and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)

##### Harter and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

##### Yeates Hollow and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

## 144—Horrocks-Cutoff complex, 15 to 30 percent slopes

### Map Unit Setting

*MLRA:* 47  
*Elevation:* 5,400 to 7,000 feet (1,645 to 2,133 meters)  
*Mean annual precipitation:* 14 to 22 inches (355 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 100 days

### Map Unit Composition

Horrocks and similar soils: 60 percent  
 Cutoff and similar soils: 25 percent  
 Minor components: 15 percent

### Component Descriptions

#### Horrocks soils

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium and colluvium derived from sandstone, conglomerate, and andesite  
*Slope:* 15 to 30 percent, north aspect  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 5.0 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, slender wheatgrass, Letterman's needlegrass, Nevada bluegrass, Saskatoon serviceberry, antelope bitterbrush,

birchleaf mountain mahogany, common yarrow, elk sedge, sheep fescue  
*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A—0 to 10 inches; very cobbly loam  
 Bt1—10 to 19 inches; very cobbly clay loam  
 Bt2—19 to 32 inches; very cobbly clay loam  
 Bt3—32 to 40 inches; very cobbly clay loam  
 BC—40 to 59 inches; very gravelly loam  
 R—59 to 60 inches; bedrock

#### Cutoff soils

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium and colluvium derived from sandstone, quartzite, and conglomerate  
*Slope:* 15 to 30 percent, southwest to southeast aspects  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 3.0 inches (very low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* About 40 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Upland Stony Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush, bluegrass, Indian ricegrass  
*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A1—0 inches to 1 inch; very gravelly loam  
 A2—1 inch to 9 inches; very gravelly loam  
 Bk1—9 to 16 inches; very gravelly loam  
 Bk2—16 to 29 inches; very gravelly loam  
 Bk3—29 to 38 inches; very gravelly loam  
 R—38 to 48 inches; bedrock

#### Minor Components

Hades and similar soils  
*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent





**Figure 5.—Horrocks-Cutoff complex, 30 to 60 percent slopes on the mountain slopes and Echocreek loam, 2 to 10 percent slopes in the valley bottom.**

*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Oak)

Heiners and similar soils  
*Composition:* About 5 percent  
*Landform:* Ridges on mountain slopes  
*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

Harter and similar soils  
*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

## **145—Horrocks-Cutoff complex, 30 to 60 percent slopes**

### **Map Unit Setting**

*MLRA:* 47  
*Elevation:* 5,300 to 7,200 feet (1,615 to 2,195 meters)  
*Mean annual precipitation:* 14 to 22 inches (355 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 100 days

### **Map Unit Composition**

Horrocks and similar soils: 60 percent  
 Cutoff and similar soils: 25 percent  
 Minor components: 15 percent

### **Component Descriptions**

#### **Horrocks soils**

*Landform:* Mountain slopes (Fig. 5)  
*Parent material:* Colluvium derived from conglomerate, sandstone, and andesite  
*Slope:* 30 to 60 percent, north aspect  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 5.0 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, slender wheatgrass, Letterman's needlegrass, Nevada bluegrass, Saskatoon serviceberry, antelope bitterbrush, birchleaf mountain mahogany, common yarrow, elk sedge, sheep fescue  
*Land capability subclass (nonirrigated):* 7e

#### *Typical Profile:*

A—0 to 10 inches; very cobbly loam  
 Bt1—10 to 19 inches; very cobbly clay loam  
 Bt2—19 to 32 inches; very cobbly clay loam  
 Bt3—32 to 40 inches; very cobbly clay loam  
 BC—40 to 59 inches; very gravelly loam  
 R—59 to 60 inches; bedrock

#### **Cutoff soils**

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone, quartzite, and conglomerate  
*Slope:* 30 to 60 percent, southeast to southwest aspects



*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 3.0 inches (very low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 40 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Upland Stony Loam (Mountain Big Sagebrush)

*Potential native vegetation:* mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush, bluegrass, Indian ricegrass

*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A1—0 inches to 1 inch; very gravelly loam

A2—1 inch to 9 inches; very gravelly loam

Bk1—9 to 16 inches; very gravelly loam

Bk2—16 to 29 inches; very gravelly loam

Bk3—29 to 38 inches; very gravelly loam

R—38 to 48 inches; bedrock

## Minor Components

Hades and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)

Heiners and similar soils

*Composition:* About 5 percent

*Landform:* Ridges on mountain slopes

*Slope:* 30 to 70 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

Harter and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

## 146—Horrocks-Hades complex, 30 to 60 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,800 to 8,200 feet (1,768 to 2,500 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Horrocks and similar soils: 65 percent

Hades and similar soils: 20 percent

Minor components: 15 percent

### Component Descriptions

#### Horrocks soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone, conglomerate, and andesite

*Slope:* 30 to 60 percent, north aspect

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 5.0 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, slender wheatgrass, Letterman's needlegrass, Nevada bluegrass, Saskatoon serviceberry, antelope bitterbrush, birchleaf mountain mahogany, common yarrow, elk sedge, sheep fescue

*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A—0 to 10 inches; very cobbly loam  
 Bt1—10 to 19 inches; very cobbly clay loam  
 Bt2—19 to 32 inches; very cobbly clay loam  
 Bt3—32 to 40 inches; very cobbly clay loam  
 BC—40 to 59 inches; very gravelly loam  
 R—59 to 60 inches; bedrock

**Hades soils**

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone, quartzite, and shale  
*Slope:* 30 to 60 percent, northwest to northeast aspects  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 9.7 inches (high)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* About 3 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Oak)  
*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass, elk sedge, mountain big sagebrush, slender wheatgrass, thickleaf peavine  
*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A1—0 to 3 inches; loam  
 A2—3 to 18 inches; loam  
 Bt1—18 to 33 inches; clay loam  
 Bt2—33 to 44 inches; clay loam  
 Bt3—44 to 60 inches; clay loam

**Minor Components**

Cutoff and similar soils  
*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent, southeast to southwest aspects  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained

*Ecological site:* Upland Stony Loam (Mountain Big Sagebrush)

## Heiners and similar soils

*Composition:* About 5 percent  
*Landform:* Ridges on mountain slopes  
*Slope:* 30 to 70 percent  
*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

## Yeates Hollow and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

**147—Hovarka-Millcreek loams, 0 to 4 percent slopes****Map Unit Setting**

*MLRA:* 47  
*Elevation:* 7,800 to 9,400 feet (2,378 to 2,865 meters)  
*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)  
*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)  
*Frost-free period:* 20 to 60 days

**Map Unit Composition**

Hovarka and similar soils: 45 percent  
 Millcreek and similar soils: 40 percent  
 Minor components: 15 percent

**Component Descriptions****Hovarka soils**

*Landform:* Flood plains  
*Parent material:* Alluvium derived from sandstone and quartzite  
*Slope:* 0 to 2 percent  
*Drainage class:* Poorly drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 6.2 inches (moderate)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* Frequent

*Seasonal water table minimum depth:* About 15 inches  
*Runoff class:* Negligible  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Wet Fresh Meadow (Sedge)  
*Potential native vegetation:* sedge, mountain rush, tufted hairgrass, shrubby cinquefoil, white marshmarigold, willow  
*Land capability subclass (nonirrigated):* 7w

*Typical Profile:*

- Oi—0 to 4 inches; slightly decomposed plant material
- A1—4 to 12 inches; loam
- A2—12 to 32 inches; loam
- 2C1—32 to 36 inches; very cobbly loamy sand
- 2C2—36 to 64 inches; very cobbly sand

**Millcreek soils**

*Landform:* Stream terraces  
*Parent material:* Alluvium derived from sandstone and quartzite  
*Slope:* 0 to 4 percent  
*Drainage class:* Moderately well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 5.2 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* Rare  
*Seasonal water table minimum depth:* About 49 inches  
*Runoff class:* Low  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* slender wheatgrass, Columbia needlegrass, mountain big sagebrush, mountain brome, sheep fescue, mountain snowberry, sticky geranium, thistleleaf peavine  
*Land capability subclass (nonirrigated):* 4s

*Typical Profile:*

- A1—0 to 14 inches; loam
- A2—14 to 24 inches; loam
- 2C—24 to 60 inches; very cobbly sand

**Minor Components**

Duchesne and similar soils  
*Composition:* About 7 percent  
*Landform:* Mountain slopes

*Slope:* 2 to 15 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Sandy Loam (Lodgepole Pine)

Haydenfork and similar soils

*Composition:* About 8 percent  
*Landform:* Kettles  
*Slope:* 0 to 3 percent  
*Drainage class:* Very poorly drained  
*Ecological site:* Wet Fresh Meadow (Sedge)

**148—Jana-Richsum-Rock outcrop complex, 30 to 70 percent slopes**

**Map Unit Setting**

*MLRA:* 47  
*Elevation:* 5,600 to 7,400 feet (1,707 to 2,255 meters)  
*Mean annual precipitation:* 14 to 16 inches (355 to 405 millimeters)  
*Average annual air temperature:* 40 to 48 degrees F. (4 to 9 degrees C.)  
*Frost-free period:* 70 to 120 days

**Map Unit Composition**

Jana and similar soils: 50 percent  
 Richsum and similar soils: 30 percent  
 Rock outcrop: 10 percent  
 Minor components: 10 percent

**Component Descriptions**

**Jana soils**

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone, conglomerate, and shale  
*Slope:* 30 to 70 percent, south aspect  
*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 1.1 inches (very low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* About 30 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Upland Gravelly Loam (Utah Juniper)  
*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, Indian ricegrass, Nevada

bluegrass, antelope bitterbrush, mountain snowberry, needleandthread, yellow rabbitbrush  
*Land capability subclass (nonirrigated): 7e*

*Typical Profile:*

A1—0 inches to 1 inch; very gravelly loam  
 A2—1 inch to 6 inches; very gravelly loam  
 Bw—6 to 12 inches; extremely cobbly loam  
 Cr—12 to 22 inches; bedrock

**Richsum soils**

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium and colluvium derived from sandstone, conglomerate, and shale  
*Slope:* 30 to 60 percent, northeast to northwest aspects  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 8.0 inches (moderate)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* About 40 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Upland Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, Indian ricegrass, basin wildrye, mountain big sagebrush, needleandthread, Oregon grape, antelope bitterbrush, aster, tapertip hawksbeard, western wheatgrass  
*Land capability subclass (nonirrigated): 7e*

*Typical Profile:*

A1—0 to 2 inches; silt loam  
 A2—2 to 14 inches; silt loam  
 Bk1—14 to 23 inches; silt loam  
 Bk2—23 to 32 inches; silt loam  
 B3—32 to 52 inches; gravelly silt loam  
 Cr—52 to 60 inches; bedrock

**Rock outcrop**

*Landforms:* Ridges on mountain slopes, escarpments on mountain slopes  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Land capability subclass (nonirrigated): 8*

**Minor Components**

Cutoff and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Stony Loam (Mountain Big Sagebrush)

Heiners and similar soils

*Composition:* About 5 percent  
*Landform:* Ridges on mountain slopes  
*Slope:* 30 to 70 percent  
*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

**149—Kovich-Toddspan loams, 0 to 3 percent slopes**

**Map Unit Setting**

*MLRA:* 47  
*Elevation:* 6,000 to 6,600 feet (1,830 to 2,012 meters)  
*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 90 days

**Map Unit Composition**

Kovich and similar soils: 45 percent  
 Toddspan and similar soils: 40 percent  
 Minor components: 15 percent

**Component Descriptions**

**Kovich soils**

*Landform:* Flood plains  
*Parent material:* Alluvium derived from sandstone, quartzite, and shale  
*Slope:* 0 to 3 percent  
*Drainage class:* Poorly drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 7.1 inches (moderate)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* Occasional  
*Seasonal water table minimum depth:* About 18 inches  
*Runoff class:* Low



*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Wet Fresh Meadow (Sedge)  
*Potential native vegetation:* sedge, mountain rush,  
 tufted hairgrass, shrubby cinquefoil, white  
 marshmarigold, willow  
*Land capability subclass (irrigated):* 6w  
*Land capability subclass (nonirrigated):* 7w

*Typical Profile:*

A1—0 to 9 inches; loam  
 A2—9 to 22 inches; clay loam  
 A3—22 to 29 inches; clay loam  
 2C—29 to 44 inches; fine sandy loam  
 3C—44 to 60 inches; very gravelly loamy fine sand

**Toddspan soils**

*Landforms:* Valley floors, flood plains  
*Parent material:* Alluvium derived from sandstone,  
 quartzite, and shale  
*Slope:* 0 to 3 percent  
*Drainage class:* Poorly drained  
*Slowest permeability:* About 0.20 in/hr (moderately  
 slow)  
*Available water capacity:* About 6.0 inches (moderate)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* Occasional  
*Seasonal water table minimum depth:* About 15 inches  
*Runoff class:* Low  
*Calcium carbonate maximum:* About 10 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Wet Fresh Meadow (Sedge)  
*Potential native vegetation:* sedge, mountain rush,  
 tufted hairgrass, shrubby cinquefoil, white  
 marshmarigold, willow  
*Land capability subclass (irrigated):* 6w  
*Land capability subclass (nonirrigated):* 7w

*Typical Profile:*

A1—0 to 4 inches; loam  
 A2—4 to 14 inches; loam  
 A3—14 to 19 inches; loam  
 2Bg1—19 to 24 inches; very cobbly clay loam  
 2Bg2—24 to 32 inches; very cobbly clay loam  
 2C1—32 to 37 inches; extremely cobbly sandy  
 clay loam  
 2C2—37 to 44 inches; extremely gravelly sandy  
 clay loam

3C—44 to 60 inches; extremely gravelly  
loamy sand

**Minor Components**

Wanship and similar soils  
*Composition:* About 10 percent  
*Landform:* Stream terraces  
*Slope:* 0 to 3 percent  
*Drainage class:* Somewhat poorly drained  
*Ecological site:* Semiwet Fresh Meadow (Redtop)

Poorly Drained, Calcareous Soils and similar soils  
*Composition:* About 5 percent  
*Slope:* 0 to 3 percent

**150—Lucky Star gravelly loam, 15 to 30 percent slopes**

**Map Unit Setting**

*MLRA:* 47  
*Elevation:* 5,800 to 9,300 feet (1,768 to 2,835 meters)  
*Mean annual precipitation:* 22 to 35 inches (560 to 890  
 millimeters)  
*Average annual air temperature:* 35 to 40 degrees F.  
 (2 to 4 degrees C.)  
*Frost-free period:* 20 to 60 days

**Map Unit Composition**

Lucky Star and similar soils: 85 percent  
 Minor components: 15 percent

**Component Descriptions**

**Lucky Star soils**

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium and colluvium derived  
 from sandstone and conglomerate  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 5.2 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6  
 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Stony Loam (Aspen)



*Potential native vegetation:* mountain brome, nodding brome, sticky geranium, Columbia needlegrass, Fendler's meadowrue, Nevada bluegrass, elk sedge, mountain big sagebrush, mountain snowberry, quaking aspen

*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A1—0 to 6 inches; gravelly loam  
 A2—6 to 12 inches; gravelly loam  
 E—12 to 25 inches; very gravelly fine sandy loam  
 E/Bt—25 to 47 inches; very cobbly sandy loam  
 Bt/E—47 to 62 inches; very cobbly sandy clay loam  
 Bt—62 to 80 inches; very cobbly sandy clay loam

**Minor Components**

Crandall and similar soils

*Composition:* About 5 percent  
*Landforms:* Mountain slopes, kame moraines  
*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)

Dromedary and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Douglas-fir)

Parkcity and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Aspen)

**151—Lucky Star gravelly loam, 30 to 60 percent slopes**

**Map Unit Setting**

*MLRA:* 47

*Elevation:* 6,200 to 9,800 feet (1,890 to 2,988 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

**Map Unit Composition**

Lucky Star and similar soils: 85 percent

Minor components: 15 percent

**Component Descriptions**

**Lucky Star soils**

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone and conglomerate

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 5.2 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Stony Loam (Aspen)

*Potential native vegetation:* mountain brome, nodding brome, sticky geranium, Columbia needlegrass, Fendler's meadowrue, Nevada bluegrass, elk sedge, mountain big sagebrush, mountain snowberry, quaking aspen

*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A1—0 to 6 inches; gravelly loam  
 A2—6 to 12 inches; gravelly loam  
 E—12 to 25 inches; very gravelly fine sandy loam  
 E/Bt—25 to 47 inches; very cobbly sandy loam  
 Bt/E—47 to 62 inches; very cobbly sandy clay loam  
 Bt—62 to 80 inches; very cobbly sandy clay loam

**Minor Components**

Crandall and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained  
*Ecological site:* High Mountain Gravelly Loam  
 (Mountain Big Sagebrush)

#### Dromedary and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 70 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam  
 (Douglas-fir)

#### Parkcity and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam  
 (Aspen)

### 152—Lucky Star-Dromedary gravelly loams, 30 to 70 percent slopes

#### Map Unit Setting

*MLRA:* 47  
*Elevation:* 6,200 to 8,000 feet (1,890 to 2,438 meters)  
*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)  
*Average annual air temperature:* 35 to 40 degrees F.  
 (2 to 4 degrees C.)  
*Frost-free period:* 20 to 60 days

#### Map Unit Composition

Lucky Star and similar soils: 55 percent  
 Dromedary and similar soils: 30 percent  
 Minor components: 15 percent

#### Component Descriptions

##### Lucky Star soils

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone, conglomerate, shale, and siltstone  
*Slope:* 30 to 70 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 5.2 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None

*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Stony Loam (Aspen)  
*Potential native vegetation:* mountain brome, nodding brome, sticky geranium, Columbia needlegrass, Fendler's meadowrue, Nevada bluegrass, elk sedge, mountain big sagebrush, mountain snowberry, quaking aspen  
*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A1—0 to 6 inches; gravelly loam  
 A2—6 to 12 inches; gravelly loam  
 E—12 to 25 inches; very gravelly fine sandy loam  
 E/Bt—25 to 47 inches; very cobbly sandy loam  
 Bt/E—47 to 62 inches; very cobbly sandy clay loam  
 Bt—62 to 80 inches; very cobbly sandy clay loam

##### Dromedary soils

*Landform:* Mountain slopes  
*Parent material:* Colluvium and till derived from sandstone, conglomerate, and shale  
*Slope:* 30 to 60 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 5.6 inches (low)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Stony Loam (Douglas-fir)  
*Potential native vegetation:* mountain snowberry, Oregon grape, boxleaf myrtle, elk sedge, quaking aspen, Nevada bluegrass, common juniper, heartleaf arnica, slender wheatgrass  
*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A—0 to 6 inches; gravelly loam  
 E—6 to 22 inches; very cobbly sandy loam  
 Bt/E—22 to 44 inches; very cobbly sandy clay loam  
 Bt1—44 to 51 inches; very cobbly sandy clay loam  
 Bt2—51 to 60 inches; very cobbly sandy clay loam

**Minor Components****Crandall and similar soils**

*Composition:* About 10 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)

**Parkcity and similar soils**

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Aspen)

**153—Lucky Star-Fewkes gravelly loams, 30 to 60 percent slopes****Map Unit Setting**

*MLRA:* 47

*Elevation:* 5,600 to 8,200 feet (1,707 to 2,500 meters)

*Mean annual precipitation:* 16 to 35 inches (405 to 890 millimeters)

*Average annual air temperature:* 35 to 45 degrees F. (2 to 7 degrees C.)

*Frost-free period:* 20 to 90 days

**Map Unit Composition**

Lucky Star and similar soils: 55 percent

Fewkes and similar soils: 30 percent

Minor components: 15 percent

**Component Descriptions****Lucky Star soils**

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone, conglomerate, shale, and siltstone  
*Slope:* 30 to 60 percent, north aspect  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 5.2 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Stony Loam (Aspen)  
*Potential native vegetation:* mountain brome, nodding brome, sticky geranium, Columbia needlegrass, Fendler's meadowrue, Nevada bluegrass, elk sedge, mountain big sagebrush, mountain snowberry, quaking aspen  
*Land capability subclass (nonirrigated):* 7e

**Typical Profile:**

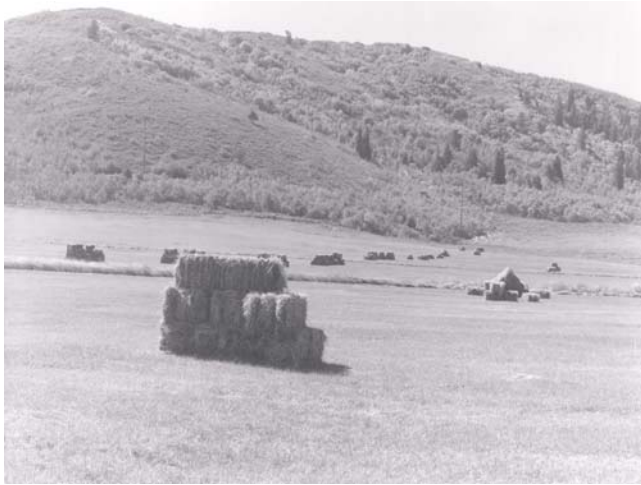
A1—0 to 6 inches; gravelly loam  
 A2—6 to 12 inches; gravelly loam  
 E—12 to 25 inches; very gravelly fine sandy loam  
 E/Bt—25 to 47 inches; very cobbly sandy loam  
 Bt/E—47 to 62 inches; very cobbly sandy clay loam  
 Bt—62 to 80 inches; very cobbly sandy clay loam

**Fewkes soils**

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone, quartzite, and shale  
*Slope:* 30 to 60 percent, southeast to southwest aspects  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 9.0 inches (high)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* About 40 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass  
*Land capability subclass (nonirrigated):* 7e

**Typical Profile:**

A—0 to 12 inches; gravelly loam  
 Bt1—12 to 17 inches; clay loam  
 Bt2—17 to 22 inches; clay loam  
 Btk1—22 to 28 inches; clay loam  
 Btk2—28 to 40 inches; clay loam  
 Bk1—40 to 50 inches; clay loam  
 Bk2—50 to 60 inches; gravelly clay loam



**Figure 6.**—Baled hay on Manila-Ant Flat loams, 2 to 8 percent slopes. Lucky Star gravelly loam, 30 to 60 percent slopes is under aspen; and Horrocks-Agassiz very cobbly loams, 30 to 70 percent slopes is under oak brush and sagebrush in the background.

### Minor Components

#### Hades and similar soils

*Composition:* About 10 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent, west to east aspects  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Oak)

#### Heiners and similar soils

*Composition:* About 5 percent  
*Landform:* Ridges on mountain slopes  
*Slope:* 30 to 70 percent, southeast to southwest aspects  
*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

### 154—Manila-Ant Flat loams, 2 to 8 percent slopes

#### Map Unit Setting

*MLRA:* 47 (Fig. 6)  
*Elevation:* 6,200 to 7,800 feet (1,890 to 2,378 meters)  
*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 90 days

#### Map Unit Composition

Manila and similar soils: 50 percent  
 Ant Flat and similar soils: 35 percent  
 Minor components: 15 percent

#### Component Descriptions

##### Manila soils

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from conglomerate, sandstone, and shale  
*Slope:* 8 to 15 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 9.7 inches (high)  
*Shrink-swell potential:* About 7.5 LEP (high)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass  
*Land capability subclass (irrigated):* 4e  
*Land capability subclass (nonirrigated):* 4e

*Typical Profile:*  
 A1—0 to 4 inches; loam  
 A2—4 to 15 inches; loam  
 Bt1—15 to 22 inches; clay loam  
 Bt2—22 to 40 inches; clay  
 Bt3—40 to 46 inches; gravelly clay  
 Bt4—46 to 60 inches; clay

##### Ant Flat soils

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from conglomerate, sandstone, and shale  
*Slope:* 2 to 8 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 9.9 inches (high)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None



*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* About 30 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (irrigated):* 3e

*Land capability subclass (nonirrigated):* 3e

*Typical Profile:*

A—0 to 13 inches; loam

Bt1—13 to 19 inches; clay loam

Bt2—19 to 30 inches; clay

Bk1—30 to 45 inches; clay loam

Bk2—45 to 60 inches; clay loam

### Minor Components

Henefer and similar soils

*Composition:* About 10 percent

*Landform:* Fan remnants

*Slope:* 3 to 15 percent, northwest to northeast aspects

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)

Horrocks and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent, southeast to southwest aspects

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

## 155—Manila-Ant Flat loams, 8 to 15 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,400 to 6,800 feet (1,645 to 2,073 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Manila and similar soils: 50 percent

Ant Flat and similar soils: 35 percent

Minor components: 15 percent

### Component Descriptions

#### Manila soils

*Landform:* Fan remnants

*Parent material:* Slope alluvium derived from conglomerate, sandstone, and shale

*Slope:* 8 to 15 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 9.7 inches (high)

*Shrink-swell potential:* About 7.5 LEP (high)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (irrigated):* 4e

*Land capability subclass (nonirrigated):* 4e

*Typical Profile:*

A1—0 to 4 inches; loam

A2—4 to 15 inches; loam

Bt1—15 to 22 inches; clay loam

Bt2—22 to 40 inches; clay

Bt3—40 to 46 inches; gravelly clay

Bt4—46 to 60 inches; clay

#### Ant Flat soils

*Landform:* Fan remnants

*Parent material:* Slope alluvium derived from conglomerate, sandstone, and shale

*Slope:* 8 to 15 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 9.9 inches (high)



*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* About 30 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 2 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass  
*Land capability subclass (irrigated):* 4e  
*Land capability subclass (nonirrigated):* 4e

*Typical Profile:*

A—0 to 13 inches; loam  
 Bt1—13 to 19 inches; clay loam  
 Bt2—19 to 30 inches; clay  
 Bk1—30 to 45 inches; clay loam  
 Bk2—45 to 60 inches; clay loam

### Minor Components

Henefer and similar soils

*Composition:* About 10 percent  
*Landform:* Fan remnants  
*Slope:* 8 to 15 percent, northwest to northeast aspects  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Oak)

Horrocks and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent, southeast to southwest aspects  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

## 156—Manila-Harter complex, 2 to 8 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 6,400 to 7,800 feet (1,950 to 2,378 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 90 days

### Map Unit Composition

Manila and similar soils: 50 percent  
 Harter and similar soils: 40 percent  
 Minor components: 10 percent

### Component Descriptions

#### Manila soils

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from conglomerate, sandstone, and shale  
*Slope:* 2 to 8 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 9.7 inches (high)  
*Shrink-swell potential:* About 7.5 LEP (high)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Medium  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass  
*Land capability subclass (irrigated):* 3e  
*Land capability subclass (nonirrigated):* 3e

*Typical Profile:*

A1—0 to 4 inches; loam  
 A2—4 to 15 inches; loam  
 Bt1—15 to 22 inches; clay loam  
 Bt2—22 to 40 inches; clay  
 Bt3—40 to 46 inches; gravelly clay  
 Bt4—46 to 60 inches; clay

#### Harter soils

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from sandstone, quartzite, and shale  
*Slope:* 2 to 8 percent  
*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 8.1 inches (moderate)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Medium  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass  
*Land capability subclass (irrigated):* 3e

*Land capability subclass (nonirrigated):* 3e

*Typical Profile:*

A1—0 to 5 inches; gravelly loam  
 A2—5 to 12 inches; gravelly loam  
 AB—12 to 19 inches; gravelly loam  
 Bt1—19 to 24 inches; gravelly clay loam  
 Bt2—24 to 33 inches; gravelly clay  
 Bt3—33 to 60 inches; gravelly clay

**Minor Components**

Kovich and similar soils

*Composition:* About 3 percent

*Landform:* Flood plains

*Slope:* 0 to 3 percent

*Drainage class:* Poorly drained

*Ecological site:* Wet Fresh Meadow (Sedge)



Figure 7.—Park City, Utah on Manila-Henefer complex, 8 to 15 percent slopes. Lucky Star gravelly loam, 30 to 60 percent slopes is under aspen, and Horrocks-Agassiz very cobbly loams, 30 to 70 percent slopes is on mountain tops.

**Yeates Hollow and similar soils**

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 3 to 15 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

**Ant Flat and similar soils**

*Composition:* About 2 percent  
*Landform:* Fan remnants  
*Slope:* 2 to 8 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

**Henefer and similar soils**

*Composition:* About 2 percent  
*Landform:* Fan remnants  
*Slope:* 3 to 15 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Oak)

## 157—Manila-Henefer complex, 8 to 15 percent slopes

### Map Unit Setting

*MLRA:* 47 (Fig. 7)  
*Elevation:* 6,000 to 7,900 feet (1,830 to 2,408 meters)  
*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 90 days

### Map Unit Composition

Manila and similar soils: 60 percent  
 Henefer and similar soils: 25 percent  
 Minor components: 15 percent

### Component Descriptions

#### Manila soils

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from conglomerate, sandstone, and shale  
*Slope:* 8 to 15 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 9.7 inches (high)

*Shrink-swell potential:* About 7.5 LEP (high)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, basin wildrye, Columbia needlegrass, Nevada bluegrass, elk sedge, mountain big sagebrush, slender wheatgrass

*Land capability subclass (irrigated):* 4e

*Land capability subclass (nonirrigated):* 4e

#### Typical Profile:

A1—0 to 4 inches; loam  
 A2—4 to 15 inches; loam  
 Bt1—15 to 22 inches; clay loam  
 Bt2—22 to 40 inches; clay  
 Bt3—40 to 46 inches; gravelly clay  
 Bt4—46 to 60 inches; clay

#### Henefer soils

*Landform:* Fan remnants  
*Parent material:* Slope alluvium derived from quartzite, sandstone, and shale  
*Slope:* 8 to 15 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 7.0 inches (moderate)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Oak)  
*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass, elk sedge, mountain big sagebrush, slender wheatgrass, thistleleaf peavine  
*Land capability subclass (irrigated):* 4e  
*Land capability subclass (nonirrigated):* 4e

*Typical Profile:*

A1—0 to 7 inches; gravelly loam  
 A2—7 to 12 inches; gravelly loam  
 Bt1—12 to 21 inches; cobbly clay  
 Bt2—21 to 30 inches; cobbly clay  
 Bt3—30 to 37 inches; very gravelly clay loam  
 Bt4—37 to 43 inches; very gravelly clay loam  
 Bt5—43 to 50 inches; very cobbly sandy clay loam  
 BC—50 to 60 inches; very cobbly sandy clay loam

**Minor Components**

## Horrocks and similar soils

*Composition:* About 10 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

## Yeates Hollow and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 3 to 15 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

**158—Melling-Ayoub-Rock outcrop complex, 10 to 30 percent slopes****Map Unit Setting**

*MLRA:* 47  
*Elevation:* 6,400 to 7,200 feet (1,950 to 2,195 meters)  
*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 90 days

**Map Unit Composition**

Melling and similar soils: 50 percent  
 Ayoub and similar soils: 30 percent  
 Rock outcrop: 10 percent  
 Minor components: 10 percent

**Component Descriptions****Melling soils**

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from andesite over residuum weathered from andesite

*Slope:* 10 to 30 percent

*Depth to restrictive feature:* 12 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 1.5 inches (very low)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Shallow Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, muttongrass, Indian ricegrass, arrowleaf balsamroot, bottlebrush squirreltail, mountain snowberry, western wheatgrass

*Land capability subclass (nonirrigated):* 7s

*Typical Profile:*

A—0 to 6 inches; extremely stony loam

Bt—6 to 19 inches; very cobbly clay loam

R—19 to 29 inches; bedrock

**Ayoub soils**

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from andesite and/or slope alluvium derived from andesite

*Slope:* 10 to 30 percent

*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 4.0 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)



*Potential native vegetation:* bluebunch wheatgrass, slender wheatgrass, Letterman's needlegrass, mountain big sagebrush, Columbia needlegrass, Nevada bluegrass, antelope bitterbrush, birchleaf mountain mahogany, muttongrass, sticky geranium, thickleaf peavine

*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A—0 to 6 inches; cobbly loam  
Bt1—6 to 12 inches; gravelly clay loam  
Bt2—12 to 18 inches; gravelly clay loam  
Bt3—18 to 23 inches; gravelly clay loam  
C—23 to 35 inches; very cobbly loam  
R—35 to 45 inches; bedrock

**Rock outcrop**

*Landforms:* Escarpments on mountain slopes, ridges on mountain slopes

*Seasonal water table minimum depth:* Greater than 6 feet

*Land capability subclass (nonirrigated):* 8

**Minor Components**

Dunford and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Mountain Gravelly Loam (Oak)

Echocreek and similar soils

*Composition:* About 5 percent  
*Landform:* Stream terraces  
*Slope:* 2 to 10 percent  
*Drainage class:* Well drained  
*Ecological site:* Upland Loam (Basin Wildrye)

**159—Parkcity-Dromedary gravelly loams, 15 to 30 percent slopes**

**Map Unit Setting**

*MLRA:* 47

*Elevation:* 5,900 to 9,800 feet (1,798 to 2,988 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

**Map Unit Composition**

Parkcity and similar soils: 70 percent  
Dromedary and similar soils: 20 percent  
Minor components: 10 percent

**Component Descriptions**

**Parkcity soils**

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium and colluvium derived from sandstone, limestone, and quartzite  
*Slope:* 15 to 30 percent, northwest to northeast aspects  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 6.2 inches (moderate)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Stony Loam (Aspen)  
*Potential native vegetation:* mountain brome, nodding brome, sticky geranium, Columbia needlegrass, Fendler's meadowrue, Nevada bluegrass, elk sedge, mountain big sagebrush, mountain snowberry, quaking aspen (Fig. 8)  
*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A1—0 to 5 inches; gravelly loam  
A2—5 to 19 inches; gravelly loam  
Bw—19 to 36 inches; very cobbly loam  
C—36 to 60 inches; very cobbly loam

**Dromedary soils**

*Landform:* Mountain slopes  
*Parent material:* Colluvium and till derived from sandstone, conglomerate, and shale  
*Slope:* 15 to 30 percent, southwest to southeast aspects  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 5.6 inches (low)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High



*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Stony Loam (Douglas-fir)

*Potential native vegetation:* mountain snowberry, Oregongrape, boxleaf myrtle, elk sedge, quaking aspen, Nevada bluegrass, common juniper, heartleaf arnica, slender wheatgrass

*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A—0 to 6 inches; gravelly loam

E—6 to 22 inches; very cobbly sandy loam

Bt/E—22 to 44 inches; very cobbly sandy clay loam

Bt1—44 to 51 inches; very cobbly sandy clay loam

Bt2—51 to 60 inches; very cobbly sandy clay loam

**Minor Components**

Rock outcrop

*Composition:* About 5 percent

*Landforms:* Escarpments on mountain slopes, ridges on mountain slopes

Crandall and similar soils

*Composition:* About 5 percent

*Landforms:* Mountain slopes, kame moraines

*Slope:* 15 to 30 percent, southeast to southwest aspects

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)



Figure 8.—Parkcity-Dromedary gravelly loams, 30 to 70 percent slopes is under aspen and conifer. Crandall-Lucky Star gravelly loams, 5 to 30 percent slopes and Crandall-Lucky Star-Starley Family complex, 30 to 70 percent slopes are under sagebrush and aspen on the upper slopes and ridges.

*Drainage class:* Well drained  
*Ecological site:* High Mountain Gravelly Loam  
 (Mountain Big Sagebrush)

## 160—Parkcity-Dromedary gravelly loams, 30 to 70 percent slopes

### Map Unit Setting

*MLRA:* 47  
*Elevation:* 5,600 to 9,600 feet (1,707 to 2,927 meters)  
*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)  
*Average annual air temperature:* 35 to 40 degrees F.  
 (2 to 4 degrees C.)  
*Frost-free period:* 20 to 60 days

### Map Unit Composition

Parkcity and similar soils: 70 percent  
 Dromedary and similar soils: 20 percent  
 Minor components: 10 percent

### Component Descriptions

#### Parkcity soils

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from sandstone, limestone, and quartzite  
*Slope:* 30 to 60 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 6.2 inches (moderate)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Stony Loam (Aspen)  
*Potential native vegetation:* mountain brome, nodding brome, sticky geranium, Columbia needlegrass, Fendler's meadowrue, Nevada bluegrass, elk sedge, mountain big sagebrush, mountain snowberry, quaking aspen  
*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A1—0 to 5 inches; gravelly loam  
 A2—5 to 19 inches; gravelly loam

Bw—19 to 36 inches; very cobbly loam  
 C—36 to 60 inches; very cobbly loam

#### Dromedary soils

*Landform:* Mountain slopes  
*Parent material:* Colluvium and till derived from conglomerate, sandstone, and shale  
*Slope:* 30 to 70 percent, southwest to southeast aspects  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.60 in/hr (moderate)  
*Available water capacity:* About 5.6 inches (low)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Stony Loam (Douglas-fir)  
*Potential native vegetation:* mountain snowberry, Oregon grape, boxleaf myrtle, elk sedge, quaking aspen, Nevada bluegrass, common juniper, heartleaf arnica, slender wheatgrass  
*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A—0 to 6 inches; gravelly loam  
 E—6 to 22 inches; very cobbly sandy loam  
 Bt/E—22 to 44 inches; very cobbly sandy clay loam  
 Bt1—44 to 51 inches; very cobbly sandy clay loam  
 Bt2—51 to 60 inches; very cobbly sandy clay loam

#### Minor Components

##### Rock outcrop

*Composition:* About 5 percent  
*Landforms:* Ridges on mountain slopes, escarpments on mountain slopes

##### Crandall and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 60 percent, southeast to southwest aspects  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained  
*Ecological site:* High Mountain Gravelly Loam  
 (Mountain Big Sagebrush)

## 161—Pits, gravel

### Map Unit Setting

*MLRA:* 47

### Map Unit Composition

Pits, gravel: 100 percent

### Component Descriptions

#### Pits, gravel

*Land capability subclass (nonirrigated):* 8

## 162—Richsum-Heiners complex, 4 to 15 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 6,200 to 7,400 feet (1,890 to 2,255 meters)

*Mean annual precipitation:* 14 to 16 inches (355 to 405 millimeters)

*Average annual air temperature:* 40 to 45 degrees F.  
 (4 to 7 degrees C.)

*Frost-free period:* 70 to 100 days

### Map Unit Composition

Richsum and similar soils: 70 percent

Heiners and similar soils: 20 percent

Minor components: 10 percent

### Component Descriptions

#### Richsum soils

*Landform:* Mountain slopes

*Parent material:* Slope derived from sandstone, conglomerate, and shale

*Slope:* 4 to 15 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock  
 (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 8.0 inches (moderate)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Medium

*Calcium carbonate maximum:* About 40 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Upland Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, Indian ricegrass, basin wildrye, mountain big sagebrush, needleandthread, Oregongrape, antelope bitterbrush, aster, tapertip hawksbeard, western wheatgrass

*Land capability subclass (nonirrigated):* 4e

### Typical Profile:

A1—0 to 2 inches; silt loam

A2—2 to 14 inches; silt loam

Bk1—14 to 23 inches; silt loam

Bk2—23 to 32 inches; silt loam

Bk3—32 to 52 inches; gravelly silt loam

Cr—52 to 60 inches; bedrock

### Heiners soils

*Landform:* Ridges on mountain slopes

*Parent material:* Slope alluvium over residuum, both derived from sandstone, conglomerate, and shale

*Slope:* 4 to 15 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock  
 (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 1.7 inches (very low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Medium

*Calcium carbonate maximum:* About 30 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, Indian ricegrass, Nevada bluegrass, antelope bitterbrush, bottlebrush squirreltail, needleandthread

*Land capability subclass (nonirrigated):* 7s

### Typical Profile:

A1—0 to 3 inches; gravelly loam

A2—3 to 8 inches; gravelly loam

Bw—8 to 12 inches; very gravelly loam

C—12 to 19 inches; very gravelly loam

Cr—19 to 29 inches; bedrock



### Minor Components

#### Ant Flat and similar soils

*Composition:* About 5 percent  
*Landform:* Fan remnants  
*Slope:* 8 to 15 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

#### Cutoff and similar soils

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 20 to 40 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Stony Loam (Mountain Big Sagebrush)

#### Jana and similar soils

*Composition:* About 2 percent  
*Landform:* Mountain slopes  
*Slope:* 30 to 70 percent  
*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Gravelly Loam (Utah Juniper)

### 163—Richsum-Heiners complex, 15 to 30 percent slopes

#### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,900 to 7,400 feet (1,798 to 2,255 meters)

*Mean annual precipitation:* 14 to 16 inches (355 to 405 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 70 to 100 days

#### Map Unit Composition

Richsum and similar soils: 60 percent

Heiners and similar soils: 30 percent

Minor components: 10 percent

#### Component Descriptions

##### Richsum soils

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium and colluvium derived from sandstone, conglomerate, and shale  
*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 8.0 inches (moderate)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* About 40 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Upland Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, Indian ricegrass, basin wildrye, mountain big sagebrush, needleandthread, Oregon grape, antelope bitterbrush, aster, tapertip hawksbeard, western wheatgrass

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

A1—0 to 2 inches; silt loam

A2—2 to 14 inches; silt loam

Bk1—14 to 23 inches; silt loam

Bk2—23 to 32 inches; silt loam

Bk3—32 to 52 inches; gravelly silt loam

Cr—52 to 60 inches; bedrock

##### Heiners soils

*Landform:* Ridges on mountain slopes

*Parent material:* Slope alluvium derived from sandstone, conglomerate, and shale

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 1.7 inches (very low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* About 30 percent

*Gypsum maximum:* None

*Salinity maximum:* About 2 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, Indian ricegrass, Nevada

bluegrass, antelope bitterbrush, bottlebrush  
squirreltail, needleandthread

*Land capability subclass (nonirrigated): 7s*

*Typical Profile:*

A1—0 to 3 inches; gravelly loam

A2—3 to 8 inches; gravelly loam

Bw—8 to 12 inches; very gravelly loam

C—12 to 19 inches; very gravelly loam

Cr—19 to 29 inches; bedrock

### Minor Components

Ant Flat and similar soils

*Composition:* About 5 percent

*Landform:* Fan remnants

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Cutoff and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 22 to 40 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* Upland Stony Loam (Mountain Big Sagebrush)

Jana and similar soils

*Composition:* About 2 percent

*Landform:* Mountain slopes

*Slope:* 30 to 70 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* Upland Gravelly Loam (Utah Juniper)

## 164—Rock outcrop

### Map Unit Setting

*MLRA:* 47

*Elevation:* 5,200 to 11,500 feet (1,585 to 3,505 meters)

*Mean annual precipitation:* 16 to 35 inches (405 to 890 millimeters)

*Average annual air temperature:* 35 to 45 degrees F.  
(2 to 7 degrees C.)

*Frost-free period:* 20 to 90 days

### Map Unit Composition

Rock outcrop: 90 percent

Minor components: 10 percent

### Component Descriptions

#### Rock outcrop

*Landform:* Mountain slopes

*Land capability subclass (nonirrigated): 8*

### Minor Components

Agassiz and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 30 to 70 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (lithic)

*Drainage class:* Somewhat excessively drained

*Ecological site:* Mountain Shallow Loam (Mountain Big Sagebrush)

Starley Family and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 30 to 70 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* High Mountain Loam (Mountain Big Sagebrush)

Parkcity and similar soils

*Composition:* About 2 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Aspen)

Hades and similar soils

*Composition:* About 2 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Oak)



## 165—Rock outcrop-Starley Family complex, 30 to 70 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 6,000 to 11,200 feet (1,830 to 3,415 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

### Map Unit Composition

Rock outcrop: 50 percent

Starley Family and similar soils: 30 percent

Minor components: 20 percent

### Component Descriptions

#### Rock outcrop

*Landform:* Mountain slopes

*Seasonal water table minimum depth:* Greater than 6 feet

*Land capability subclass (nonirrigated):* 8

#### Starley Family soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from shale, granite, conglomerate, limestone, quartzite, and sandstone; and colluvium derived from limestone, quartzite, and sandstone

*Slope:* 30 to 70 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 1.5 inches (very low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* About 3 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Loam (Mountain Big Sagebrush)

*Potential native vegetation:* slender wheatgrass, Columbia needlegrass, mountain big sagebrush, mountain brome, sheep fescue, mountain snowberry, sticky geranium, thickleaf peavine

*Land capability subclass (nonirrigated):* 7e

### Typical Profile:

A1—0 to 6 inches; very cobbly loam

A2—6 to 15 inches; extremely cobbly loam

Bk—15 to 19 inches; extremely cobbly loam

R—19 to 29 inches; bedrock

### Minor Components

Dromedary and similar soils

*Composition:* About 10 percent

*Landform:* Mountain slopes

*Slope:* 30 to 70 percent, southwest to southeast aspects

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Douglas-fir)

Crandall and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)

Lucky Star and similar soils

*Composition:* About 5 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent, southwest to southeast aspects

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Aspen)

## 166—Sessions-Haydenfork complex, 0 to 15 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 8,200 to 9,900 feet (2,500 to 3,018 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

### Map Unit Composition

Sessions and similar soils: 60 percent  
 Haydenfork and similar soils: 25 percent  
 Minor components: 15 percent

### Component Descriptions

#### Sessions soils

*Landform:* Till plains  
*Parent material:* Till derived from sandstone, quartzite, and shale  
*Slope:* 2 to 15 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 9.7 inches (high)  
*Shrink-swell potential:* About 7.5 LEP (high)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Medium  
*Calcium carbonate maximum:* About 30 percent  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Loam (Silver Sagebrush)  
*Potential native vegetation:* silver sagebrush, slender wheatgrass, Nevada bluegrass, mountain brome, mountain snowberry, sticky geranium, thickleaf peavine  
*Land capability subclass (nonirrigated):* 6c

#### Typical Profile:

A1—0 to 8 inches; loam  
 A2—8 to 15 inches; clay loam  
 Bt1—15 to 48 inches; clay  
 Bt2—48 to 52 inches; gravelly clay loam  
 Btk—52 to 60 inches; gravelly clay loam

#### Haydenfork soils

*Landform:* Kettles  
*Parent material:* Outwash derived from sandstone and quartzite  
*Slope:* 0 to 3 percent  
*Drainage class:* Very poorly drained  
*Slowest permeability:* About 0.20 in/hr (moderately slow)  
*Available water capacity:* About 9.8 inches (high)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Ponding hazard:* Occasional

*Seasonal water table minimum depth:* About 10 inches

*Runoff class:* Low

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Wet Fresh Meadow (Sedge)

*Potential native vegetation:* sedge, mountain rush, tufted hairgrass, shrubby cinquefoil, white marshmarigold, willow

*Land capability subclass (nonirrigated):* 7w

#### Typical Profile:

Oi—0 to 3 inches; slightly decomposed plant material  
 A1—3 to 9 inches; clay loam  
 A2—9 to 17 inches; clay loam  
 A3—17 to 21 inches; clay loam  
 Bg—21 to 25 inches; clay loam  
 Cg—25 to 36 inches; sandy clay loam  
 C1—36 to 55 inches; sandy clay loam  
 C2—55 to 63 inches; gravelly sandy clay loam

### Minor Components

#### Skutum and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 2 to 15 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Loam (Aspen)

#### Crandall and similar soils

*Composition:* About 5 percent  
*Landforms:* Mountain slopes, kame moraines  
*Slope:* 5 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)

#### Uinta and similar soils

*Composition:* About 5 percent  
*Landform:* Mountain slopes  
*Slope:* 8 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Mixed Conifer)





Figure 9.—An old logging cabin on Sessions soil in Sessions-Skutum loams, 2 to 15 percent slopes.

## 167—Sessions-Skutum loams, 2 to 15 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 7,800 to 9,300 feet (2,378 to 2,835 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

### Map Unit Composition

Sessions and similar soils: 55 percent

Skutum and similar soils: 30 percent

Minor components: 15 percent

## Component Descriptions

### Sessions soils

*Landform:* Till plains (Fig. 9)

*Parent material:* Till derived from sandstone, quartzite, and shale

*Slope:* 2 to 15 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 9.7 inches (high)

*Shrink-swell potential:* About 7.5 LEP (high)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Medium

*Calcium carbonate maximum:* About 30 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Loam (Silver Sagebrush)

*Potential native vegetation:* silver sagebrush, slender wheatgrass, Nevada bluegrass, mountain brome, mountain snowberry, sticky geranium, thickleaf peavine

*Land capability subclass (nonirrigated):* 6c

*Typical Profile:*

A1—0 to 8 inches; loam

A2—8 to 15 inches; clay loam

Bt1—15 to 48 inches; clay

Bt2—48 to 52 inches; gravelly clay loam

Btk—52 to 60 inches; gravelly clay loam

**Skutum soils**

*Landform:* Mountain slopes

*Parent material:* Slope alluvium derived from sandstone, conglomerate, siltstone, and claystone

*Slope:* 2 to 15 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 7.2 inches (moderate)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Medium

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Loam (Aspen)

*Potential native vegetation:* mountain brome, slender wheatgrass, thickleaf peavine, Columbia needlegrass, Kentucky bluegrass, blue wildrye, butterweed groundsel, coneflower, elk sedge, mountain snowberry, nodding bluegrass, sticky geranium, western sweetroot

*Land capability subclass (nonirrigated):* 6c

*Typical Profile:*

A1—0 to 5 inches; loam

A2—5 to 17 inches; loam

Bt1—17 to 32 inches; gravelly clay

Bt2—32 to 44 inches; gravelly clay

Bt3—44 to 48 inches; gravelly clay

2C—48 to 56 inches; gravelly sandy loam

Cr—56 to 60 inches; bedrock

**Minor Components**

Uinta and similar soils

*Composition:* About 4 percent

*Landform:* Mountain slopes

*Slope:* 8 to 15 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

Parkcity and similar soils

*Composition:* About 4 percent

*Landform:* Mountain slopes

*Slope:* 15 to 30 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Aspen)

Crandall and similar soils

*Composition:* About 3 percent

*Landforms:* Mountain slopes, kame moraines

*Slope:* 5 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)

Haydenfork and similar soils

*Composition:* About 4 percent

*Landform:* Kettles

*Slope:* 0 to 3 percent

*Drainage class:* Very poorly drained

*Ecological site:* Wet Fresh Meadow (Sedge)

**168—Sessions-Uinta complex, 2 to 30 percent slopes**

**Map Unit Setting**

*MLRA:* 47

*Elevation:* 8,000 to 10,600 feet (2,438 to 3,230 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

**Map Unit Composition**

Sessions and similar soils: 60 percent

Uinta and similar soils: 25 percent

Minor components: 15 percent



## Component Descriptions

### Sessions soils

*Landform:* Till plains

*Parent material:* Till derived from sandstone, quartzite, and shale

*Slope:* 2 to 15 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 9.7 inches (high)

*Shrink-swell potential:* About 7.5 LEP (high)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Medium

*Calcium carbonate maximum:* About 30 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Loam (Silver Sagebrush)

*Potential native vegetation:* silver sagebrush, slender wheatgrass, Nevada bluegrass, mountain brome, mountain snowberry, sticky geranium, thickleaf peavine

*Land capability subclass (nonirrigated):* 6c

#### Typical Profile:

A1—0 to 8 inches; loam

A2—8 to 15 inches; clay loam

Bt1—15 to 48 inches; clay

Bt2—48 to 52 inches; gravelly clay loam

Btk—52 to 60 inches; gravelly clay loam

### Uinta soils

*Landform:* Mountain slopes

*Parent material:* Slope alluvium and till derived from sandstone, quartzite, and shale

*Slope:* 8 to 30 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 7.2 inches (moderate)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

*Potential native vegetation:* elk sedge, slender wheatgrass, Oregon grape, Wheeler bluegrass, blue wildrye, boxleaf myrtle, common juniper, heartleaf arnica, kinnikinnick, mallow ninebark, mountain snowberry, spike trisetum

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

E—0 to 13 inches; cobbly sandy loam

E/Bt—13 to 23 inches; gravelly sandy loam

Bt1—23 to 35 inches; gravelly sandy clay loam

Bt2—35 to 50 inches; gravelly clay loam

Bt3—50 to 60 inches; gravelly clay loam

### Minor Components

Crandall and similar soils

*Composition:* About 5 percent

*Landforms:* Mountain slopes, kame moraines

*Slope:* 5 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)

Haydenfork and similar soils

*Composition:* About 7 percent

*Landform:* Kettles

*Slope:* 0 to 3 percent

*Drainage class:* Very poorly drained

*Ecological site:* Wet Fresh Meadow (Sedge)

Skutum and similar soils

*Composition:* About 3 percent

*Landform:* Mountain slopes

*Slope:* 8 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* High Mountain Loam (Aspen)

## 169—Skutum loam, 2 to 15 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 7,500 to 9,500 feet (2,287 to 2,897 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days



**Map Unit Composition**

Skutum and similar soils: 85 percent  
 Minor components: 15 percent

**Component Descriptions****Skutum soils**

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium derived from sandstone, conglomerate, siltstone, and claystone  
*Slope:* 2 to 15 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 7.2 inches (moderate)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Medium  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Loam (Aspen)  
*Potential native vegetation:* mountain brome, slender wheatgrass, thickleaf peavine, Columbia needlegrass, Kentucky bluegrass, blue wildrye, butterweed groundsel, coneflower, elk sedge, mountain snowberry, nodding bluegrass, sticky geranium, western sweetroot  
*Land capability subclass (nonirrigated):* 6c

*Typical Profile:*

A1—0 to 5 inches; loam  
 A2—5 to 17 inches; loam  
 Bt1—17 to 32 inches; gravelly clay  
 Bt2—32 to 44 inches; gravelly clay  
 Bt3—44 to 48 inches; gravelly clay  
 2C—48 to 56 inches; gravelly sandy loam  
 Cr—56 to 60 inches; bedrock

**Minor Components**

Sessions and similar soils  
*Composition:* About 6 percent  
*Landform:* Till plains  
*Slope:* 2 to 15 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Loam (Silver Sagebrush)

Haydenfork and similar soils  
*Composition:* About 6 percent

*Landform:* Kettles  
*Slope:* 0 to 3 percent  
*Drainage class:* Very poorly drained  
*Ecological site:* Wet Fresh Meadow (Sedge)

**Uinta and similar soils**

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 8 to 15 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

**170—Skutum loam, 15 to 30 percent slopes****Map Unit Setting**

*MLRA:* 47  
*Elevation:* 6,400 to 9,600 feet (1,950 to 2,927 meters)  
*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)  
*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)  
*Frost-free period:* 20 to 60 days

**Map Unit Composition**

Skutum and similar soils: 85 percent  
 Minor components: 15 percent

**Component Descriptions****Skutum soils**

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium and colluvium derived from sandstone, conglomerate, siltstone, and claystone  
*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 7.2 inches (moderate)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Loam (Aspen)  
*Potential native vegetation:* mountain brome, slender wheatgrass, thickleaf peavine, Columbia

needlegrass, Kentucky bluegrass, blue wildrye, butterweed groundsel, coneflower, elk sedge, mountain snowberry, nodding bluegrass, sticky geranium, western sweetroot

*Land capability subclass (nonirrigated): 6e*

*Typical Profile:*

A1—0 to 5 inches; loam  
A2—5 to 17 inches; loam  
Bt1—17 to 32 inches; gravelly clay  
Bt2—32 to 44 inches; gravelly clay  
Bt3—44 to 48 inches; gravelly clay  
2C—48 to 56 inches; gravelly sandy loam  
Cr—56 to 60 inches; bedrock

**Minor Components**

Sessions and similar soils

*Composition:* About 6 percent  
*Landform:* Till plains  
*Slope:* 2 to 15 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Loam (Silver Sagebrush)

Haydenfork and similar soils

*Composition:* About 6 percent  
*Landform:* Kettles  
*Slope:* 0 to 3 percent  
*Drainage class:* Very poorly drained  
*Ecological site:* Wet Fresh Meadow (Sedge)

Uinta and similar soils

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

**171—Skutum loam, 30 to 60 percent slopes**

**Map Unit Setting**

*MLRA:* 47

*Elevation:* 6,600 to 9,800 feet (2,012 to 2,988 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

**Map Unit Composition**

Skutum and similar soils: 85 percent

Minor components: 15 percent

**Component Descriptions**

**Skutum soils**

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone, conglomerate, siltstone, and claystone

*Slope:* 30 to 60 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 7.2 inches (moderate)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Loam (Aspen)

*Potential native vegetation:* mountain brome, slender wheatgrass, thickleaf peavine, Columbia needlegrass, Kentucky bluegrass, blue wildrye, butterweed groundsel, coneflower, elk sedge, mountain snowberry, nodding bluegrass, sticky geranium, western sweetroot

*Land capability subclass (nonirrigated): 7e*

*Typical Profile:*

A1—0 to 5 inches; loam  
A2—5 to 17 inches; loam  
Bt1—17 to 32 inches; gravelly clay  
Bt2—32 to 44 inches; gravelly clay  
Bt3—44 to 48 inches; gravelly clay  
2C—48 to 56 inches; gravelly sandy loam  
Cr—56 to 60 inches; bedrock

**Minor Components**

Uinta and similar soils

*Composition:* About 6 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

## Sessions and similar soils

*Composition:* About 4 percent*Landform:* Till plains*Slope:* 2 to 15 percent*Drainage class:* Well drained*Ecological site:* High Mountain Loam (Silver Sagebrush)

## Haydenfork and similar soils

*Composition:* About 5 percent*Landform:* Kettles*Slope:* 0 to 3 percent*Drainage class:* Very poorly drained*Ecological site:* Wet Fresh Meadow (Sedge)**172—Skutum-Uinta association, 15 to 30 percent slopes****Map Unit Setting***MLRA:* 47*Elevation:* 7,600 to 10,100 feet (2,318 to 3,080 meters)*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)*Frost-free period:* 20 to 60 days**Map Unit Composition**

Skutum and similar soils: 60 percent

Uinta and similar soils: 25 percent

Minor components: 15 percent

**Component Descriptions****Skutum soils***Landform:* Mountain slopes*Parent material:* Slope alluvium and colluvium derived from sandstone, conglomerate, siltstone, and claystone*Slope:* 15 to 30 percent*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)*Drainage class:* Well drained*Slowest permeability:* About 0.06 in/hr (slow)*Available water capacity:* About 7.2 inches (moderate)*Shrink-swell potential:* About 4.5 LEP (moderate)*Flooding hazard:* None*Seasonal water table minimum depth:* Greater than 6 feet*Runoff class:* High*Calcium carbonate maximum:* None*Gypsum maximum:* None*Salinity maximum:* About 0 mmhos/cm (nonsaline)*Sodicity maximum:* About 0 SAR (nonsodic)*Ecological site:* High Mountain Loam (Aspen)*Potential native vegetation:* mountain brome, slender wheatgrass, thistleleaf peavine, Columbia needlegrass, Kentucky bluegrass, blue wildrye, butterweed groundsel, coneflower, elk sedge, mountain snowberry, nodding bluegrass, sticky geranium, western sweetroot*Land capability subclass (nonirrigated):* 6e*Typical Profile:*

A1—0 to 5 inches; loam

A2—5 to 17 inches; loam

Bt1—17 to 32 inches; gravelly clay

Bt2—32 to 44 inches; gravelly clay

Bt3—44 to 48 inches; gravelly clay

2C—48 to 56 inches; gravelly sandy loam

Cr—56 to 60 inches; bedrock

**Uinta soils***Landform:* Mountain slopes*Parent material:* Slope alluvium and till derived from sandstone, quartzite, and shale*Slope:* 15 to 30 percent*Drainage class:* Well drained*Slowest permeability:* About 0.20 in/hr (moderately slow)*Available water capacity:* About 7.2 inches (moderate)*Shrink-swell potential:* About 4.5 LEP (moderate)*Flooding hazard:* None*Seasonal water table minimum depth:* Greater than 6 feet*Runoff class:* High*Calcium carbonate maximum:* None*Gypsum maximum:* None*Salinity maximum:* About 0 mmhos/cm (nonsaline)*Sodicity maximum:* About 0 SAR (nonsodic)*Ecological site:* High Mountain Stony Loam (Mixed Conifer)*Potential native vegetation:* elk sedge, slender wheatgrass, Oregon grape, Wheeler bluegrass, blue wildrye, boxleaf myrtle, common juniper, heartleaf arnica, kinnikinnick, mallow ninebark, mountain snowberry, spike trisetum*Land capability subclass (nonirrigated):* 6e*Typical Profile:*

E—0 to 13 inches; cobbly sandy loam

E/Bt—13 to 23 inches; gravelly sandy loam

Bt1—23 to 35 inches; gravelly sandy clay loam

Bt2—35 to 50 inches; gravelly clay loam

Bt3—50 to 60 inches; gravelly clay loam

### Minor Components

Sessions and similar soils

*Composition:* About 8 percent

*Landform:* Till plains

*Slope:* 2 to 15 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Loam (Silver Sagebrush)

Haydenfork and similar soils

*Composition:* About 7 percent

*Landform:* Kettles

*Slope:* 0 to 3 percent

*Drainage class:* Very poorly drained

*Ecological site:* Wet Fresh Meadow (Sedge)

## 173—Skutum-Uinta association, 30 to 60 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 7,000 to 10,000 feet (2,135 to 3,048 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

### Map Unit Composition

Skutum and similar soils: 60 percent

Uinta and similar soils: 25 percent

Minor components: 15 percent

### Component Descriptions

#### Skutum soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone, conglomerate, siltstone, and claystone

*Slope:* 30 to 50 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 7.2 inches (moderate)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Loam (Aspen)

*Potential native vegetation:* mountain brome, slender wheatgrass, thistleleaf peavine, Columbia needlegrass, Kentucky bluegrass, blue wildrye, butterweed groundsel, coneflower, elk sedge, mountain snowberry, nodding bluegrass, sticky geranium, western sweetroot

*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

A1—0 to 5 inches; loam

A2—5 to 17 inches; loam

Bt1—17 to 32 inches; gravelly clay

Bt2—32 to 44 inches; gravelly clay

Bt3—44 to 48 inches; gravelly clay

2C—48 to 56 inches; gravelly sandy loam

Cr—56 to 60 inches; bedrock

#### Uinta soils

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from sandstone, quartzite, and shale

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 7.2 inches (moderate)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

*Potential native vegetation:* elk sedge, slender wheatgrass, Oregon grape, Wheeler bluegrass, blue wildrye, boxleaf myrtle, common juniper, heartleaf arnica, kinnikinnick, mallow ninebark, mountain snowberry, spike trisetum

*Land capability subclass (nonirrigated):* 7e

#### Typical Profile:

E—0 to 13 inches; cobbly sandy loam

E/Bt—13 to 23 inches; gravelly sandy loam

Bt1—23 to 35 inches; gravelly sandy clay loam

Bt2—35 to 50 inches; gravelly clay loam

Bt3—50 to 60 inches; gravelly clay loam



**Minor Components**

Sessions and similar soils

*Composition:* About 8 percent

*Landform:* Till plains

*Slope:* 2 to 15 percent

*Drainage class:* Well drained

*Ecological site:* High Mountain Loam (Silver Sagebrush)

Haydenfork and similar soils

*Composition:* About 7 percent

*Landform:* Kettles

*Slope:* 0 to 3 percent

*Drainage class:* Very poorly drained

*Ecological site:* Wet Fresh Meadow (Sedge)

## **174—Snyderville cobbly loam, 1 to 5 percent slopes**

### **Map Unit Setting**

*MLRA:* 47

*Elevation:* 5,400 to 8,400 feet (1,645 to 2,560 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### **Map Unit Composition**

Snyderville and similar soils: 85 percent

Minor components: 15 percent

### **Component Descriptions**

#### **Snyderville soils**

*Landforms:* Stream terraces, outwash terraces

*Parent material:* Alluvium and outwash derived from sandstone, conglomerate, and quartzite

*Slope:* 1 to 5 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 4.3 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Low

*Calcium carbonate maximum:* About 3 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, slender wheatgrass, Letterman's needlegrass, mountain big sagebrush, Columbia needlegrass, Nevada bluegrass, antelope bitterbrush, birchleaf mountain mahogany, muttongrass, sticky geranium, thickleaf peavine

*Land capability subclass (irrigated):* 4s

*Land capability subclass (nonirrigated):* 6s

### *Typical Profile:*

A1—0 to 10 inches; cobbly loam

A2—10 to 16 inches; cobbly loam

Bt—16 to 28 inches; very cobbly loam

2C—28 to 35 inches; very cobbly loamy sand

3C—35 to 60 inches; extremely cobbly sand

**Minor Components**

Harter and similar soils

*Composition:* About 5 percent

*Landform:* Fan remnants

*Slope:* 2 to 8 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Toddspan and similar soils

*Composition:* About 5 percent

*Landforms:* Valley floors, flood plains

*Slope:* 0 to 3 percent

*Drainage class:* Poorly drained

*Ecological site:* Wet Fresh Meadow (Sedge)

Wanship and similar soils

*Composition:* About 5 percent

*Landform:* Stream terraces

*Slope:* 0 to 3 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Semiwet Fresh Meadow (Redtop)

## **175—Snyderville cobbly loam, 5 to 10 percent slopes**

### **Map Unit Setting**

*MLRA:* 47

*Elevation:* 5,300 to 7,900 feet (1,615 to 2,408 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F.  
(4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Snyderville and similar soils: 85 percent

Minor components: 15 percent

### Component Descriptions

#### Snyderville soils

*Landforms:* Outwash terraces, stream terraces

*Parent material:* Alluvium and outwash derived from sandstone, conglomerate, and quartzite

*Slope:* 5 to 10 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 4.3 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Medium

*Calcium carbonate maximum:* About 3 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, slender wheatgrass, Letterman's needlegrass, mountain big sagebrush, Columbia needlegrass, Nevada bluegrass, antelope bitterbrush, birchleaf mountain mahogany, muttongrass, sticky geranium, thickleaf peavine

*Land capability subclass (irrigated):* 4s

*Land capability subclass (nonirrigated):* 6s

#### Typical Profile:

A1—0 to 10 inches; cobbly loam

A2—10 to 16 inches; cobbly loam

Bt—16 to 28 inches; very cobbly loam

2C—28 to 35 inches; very cobbly loamy sand

3C—35 to 60 inches; extremely cobbly sand

### Minor Components

Harter and similar soils

*Composition:* About 5 percent

*Landform:* Fan remnants

*Slope:* 2 to 15 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Toddspan and similar soils

*Composition:* About 5 percent

*Landforms:* Valley floors, flood plains

*Slope:* 0 to 3 percent

*Drainage class:* Poorly drained

*Ecological site:* Wet Fresh Meadow (Sedge)

Wanship and similar soils

*Composition:* About 5 percent

*Landform:* Stream terraces

*Slope:* 0 to 3 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Semiwet Fresh Meadow (Redtop)

## 176—Snyderville gravelly loam, 1 to 5 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 6,400 to 7,200 feet (1,950 to 2,195 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F.  
(4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

### Map Unit Composition

Snyderville and similar soils: 85 percent

Minor components: 15 percent

### Component Descriptions

#### Snyderville soils

*Landforms:* Outwash terraces, stream terraces

*Parent material:* Alluvium and outwash derived from sandstone, conglomerate, and quartzite

*Slope:* 1 to 5 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 4.3 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Low

*Calcium carbonate maximum:* About 3 percent

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, slender wheatgrass, Letterman's needlegrass, mountain big sagebrush, Columbia needlegrass, Nevada bluegrass, antelope bitterbrush, birchleaf mountain mahogany, muttongrass, sticky geranium, thickleaf peavine

*Land capability subclass (irrigated):* 4s

*Land capability subclass (nonirrigated):* 6s

*Typical Profile:*

A1—0 to 10 inches; gravelly loam

A2—10 to 16 inches; gravelly loam

Bt—16 to 28 inches; very gravelly sandy clay loam

2C—28 to 35 inches; very cobbly loamy sand

3C—35 to 60 inches; extremely cobbly sand

### Minor Components

Harter and similar soils

*Composition:* About 8 percent

*Landform:* Fan remnants

*Slope:* 2 to 8 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Wanship and similar soils

*Composition:* About 5 percent

*Landform:* Stream terraces

*Slope:* 0 to 3 percent

*Drainage class:* Somewhat poorly drained

*Ecological site:* Semiwet Fresh Meadow (Redtop)

Toddspan and similar soils

*Composition:* About 2 percent

*Landforms:* Flood plains, valley floors

*Slope:* 0 to 3 percent

*Drainage class:* Poorly drained

*Ecological site:* Wet Fresh Meadow (Sedge)

## 177—Uinta-Duchesne complex, 8 to 30 percent slopes

### Map Unit Setting

*MLRA:* 47

*Elevation:* 8,400 to 10,200 feet (2,560 to 3,110 meters)

*Mean annual precipitation:* 22 to 35 inches (560 to 890 millimeters)

*Average annual air temperature:* 35 to 40 degrees F. (2 to 4 degrees C.)

*Frost-free period:* 20 to 60 days

### Map Unit Composition

Uinta and similar soils: 55 percent

Duchesne and similar soils: 30 percent

Minor components: 15 percent

### Component Descriptions

#### Uinta soils

*Landform:* Mountain slopes

*Parent material:* Slope alluvium and till derived from sandstone, quartzite, and shale

*Slope:* 8 to 30 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.20 in/hr (moderately slow)

*Available water capacity:* About 7.2 inches (moderate)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* High Mountain Stony Loam (Mixed Conifer)

*Potential native vegetation:* elk sedge, slender wheatgrass, Oregon grape, Wheeler bluegrass, blue wildrye, boxleaf myrtle, common juniper, heartleaf arnica, kinnikinnick, mallow ninebark, mountain snowberry, spike trisetum

*Land capability subclass (nonirrigated):* 6e

#### Typical Profile:

E—0 to 13 inches; cobbly sandy loam

E/Bt—13 to 23 inches; gravelly sandy loam

Bt1—23 to 35 inches; gravelly sandy clay loam

Bt2—35 to 50 inches; gravelly clay loam

Bt3—50 to 60 inches; gravelly clay loam

#### Duchesne soils

*Landform:* Mountain slopes

*Parent material:* Slope alluvium and till derived from sandstone, quartzite, and shale

*Slope:* 8 to 30 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.60 in/hr (moderate)

*Available water capacity:* About 5.4 inches (low)  
*Shrink-swell potential:* About 1.5 LEP (low)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* High Mountain Stony Sandy Loam (Lodgepole Pine)  
*Potential native vegetation:* elk sedge, nodding bluegrass, nodding brome, pinegrass, Oregongrape, boxleaf myrtle, common juniper, fleabane, grouse whortleberry, heartleaf arnica  
*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A—0 to 4 inches; very cobbly sandy loam  
 E—4 to 11 inches; gravelly fine sandy loam  
 E/Bt—11 to 18 inches; gravelly fine sandy loam  
 Bt/E—18 to 30 inches; very cobbly sandy clay loam  
 Bt1—30 to 42 inches; very cobbly sandy clay loam  
 Bt2—42 to 60 inches; very cobbly sandy clay loam

**Minor Components**

Haydenfork and similar soils

*Composition:* About 5 percent  
*Landform:* Kettles  
*Slope:* 0 to 3 percent  
*Drainage class:* Very poorly drained  
*Ecological site:* Wet Fresh Meadow (Sedge)

Crandall and similar soils

*Composition:* About 4 percent  
*Landforms:* Mountain slopes, kame moraines  
*Slope:* 5 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Gravelly Loam (Mountain Big Sagebrush)

Sessions and similar soils

*Composition:* About 3 percent  
*Landform:* Till plains  
*Slope:* 2 to 15 percent  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Loam (Silver Sagebrush)

Skutum and similar soils

*Composition:* About 3 percent  
*Landform:* Mountain slopes  
*Slope:* 8 to 30 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* High Mountain Loam (Aspen)

**178—Wanship loam, 0 to 3 percent slopes**

**Map Unit Setting**

*MLRA:* 47

*Elevation:* 6,300 to 7,200 feet (1,920 to 2,195 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

**Map Unit Composition**

Wanship and similar soils: 90 percent

Minor components: 10 percent

**Component Descriptions**

**Wanship soils**

*Landform:* Stream terraces

*Parent material:* Alluvium derived from sandstone and conglomerate

*Slope:* 0 to 3 percent

*Drainage class:* Somewhat poorly drained

*Slowest permeability:* About 2.00 in/hr (moderately rapid)

*Available water capacity:* About 4.9 inches (low)

*Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* Rare

*Seasonal water table minimum depth:* About 26 inches

*Runoff class:* Very low

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Semiwet Fresh Meadow (Redtop)

*Potential native vegetation:* sedge, timothy, tufted hairgrass, basin wildrye, field horsetail, meadow foxtail, mountain brome, mountain rush, muttongrass, redtop, shrubby cinquefoil, silver sagebrush, slender wheatgrass, sticky geranium

*Land capability subclass (irrigated):* 4w

*Land capability subclass (nonirrigated):* 4w





**Figure 10.—Hayland is on Wanship-Kovich loams, 0 to 3 percent slopes. Horrocks-Cutoff complex, 30 to 60 percent slopes is in the background.**

*Typical Profile:*

- A1—0 to 8 inches; loam
- A2—8 to 14 inches; loam
- A3—14 to 24 inches; loam
- 2C1—24 to 26 inches; extremely cobbly loamy sand
- 2C2—26 to 60 inches; extremely cobbly loamy sand

**Minor Components**

**Kovich and similar soils**

- Composition:* About 5 percent
- Landform:* Flood plains
- Slope:* 0 to 3 percent
- Drainage class:* Poorly drained
- Ecological site:* Wet Fresh Meadow (Sedge)

**Snyderville and similar soils**

- Composition:* About 5 percent
- Landforms:* Outwash terraces, stream terraces
- Slope:* 1 to 5 percent
- Drainage class:* Well drained
- Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)

**179—Wanship-Kovich loams, 0 to 3 percent slopes**

**Map Unit Setting**

- MLRA:* 47 (Fig. 10)
- Elevation:* 5,200 to 8,000 feet (1,585 to 2,438 meters)
- Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)
- Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)
- Frost-free period:* 60 to 90 days

**Map Unit Composition**

- Wanship and similar soils: 55 percent
- Kovich and similar soils: 30 percent
- Minor components: 15 percent

**Component Descriptions**

**Wanship soils**

- Landform:* Stream terraces
- Parent material:* Alluvium derived from sandstone and conglomerate
- Slope:* 0 to 3 percent
- Drainage class:* Somewhat poorly drained
- Slowest permeability:* About 2.00 in/hr (moderately rapid)
- Available water capacity:* About 4.9 inches (low)
- Shrink-swell potential:* About 1.5 LEP (low)
- Flooding hazard:* Rare
- Seasonal water table minimum depth:* About 26 inches
- Runoff class:* Very low
- Calcium carbonate maximum:* None
- Gypsum maximum:* None
- Salinity maximum:* About 0 mmhos/cm (nonsaline)
- Sodicity maximum:* About 0 SAR (nonsodic)
- Ecological site:* Semiwet Fresh Meadow (Redtop)
- Potential native vegetation:* sedge, timothy, tufted hairgrass, basin wildrye, field horsetail, meadow foxtail, mountain brome, mountain rush, muttongrass, redtop, shrubby cinquefoil, silver sagebrush, slender wheatgrass, sticky geranium
- Land capability subclass (irrigated):* 4w
- Land capability subclass (nonirrigated):* 4w

*Typical Profile:*

- A1—0 to 8 inches; loam
- A2—8 to 14 inches; loam
- A3—14 to 24 inches; loam
- 2C1—24 to 26 inches; extremely cobbly loamy sand
- 2C2—26 to 60 inches; extremely cobbly loamy sand

**Kovich soils**

- Landform:* Flood plains
- Parent material:* Alluvium derived from sandstone, quartzite, and shale alluvium
- Slope:* 0 to 3 percent
- Drainage class:* Poorly drained
- Slowest permeability:* About 0.20 in/hr (moderately slow)
- Available water capacity:* About 7.1 inches (moderate)
- Shrink-swell potential:* About 1.5 LEP (low)

*Flooding hazard:* Occasional  
*Seasonal water table minimum depth:* About 18 inches  
*Runoff class:* Low  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Wet Fresh Meadow (Sedge)  
*Potential native vegetation:* sedge, mountain rush, tufted hairgrass, shrubby cinquefoil, white marshmarigold, willow  
*Land capability subclass (irrigated):* 6w  
*Land capability subclass (nonirrigated):* 7w

*Typical Profile:*

A1—0 to 9 inches; loam  
 A2—9 to 22 inches; clay loam  
 A3—22 to 29 inches; clay loam  
 2C—29 to 44 inches; fine sandy loam  
 3C—44 to 60 inches; very gravelly loamy fine sand

**Minor Components**

Toddspan and similar soils  
*Composition:* About 6 percent  
*Landforms:* Valley floors, flood plains  
*Slope:* 0 to 3 percent  
*Drainage class:* Poorly drained  
*Ecological site:* Wet Fresh Meadow (Sedge)

Snyderville and similar soils  
*Composition:* About 5 percent  
*Landforms:* Outwash terraces, stream terraces  
*Slope:* 1 to 5 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Gravelly Loam (Mountain Big Sagebrush)

Dastrup and similar soils  
*Composition:* About 4 percent  
*Landform:* Fan remnants  
*Slope:* 2 to 5 percent  
*Drainage class:* Well drained  
*Ecological site:* Upland Loam (Mountain Big Sagebrush)

**180—Yeates Hollow-Henefer complex, 3 to 15 percent slopes**

**Map Unit Setting**

*MLRA:* 47  
*Elevation:* 6,400 to 8,300 feet (1,950 to 2,530 meters)  
*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 90 days

**Map Unit Composition**

Yeates Hollow and similar soils: 55 percent  
 Henefer and similar soils: 30 percent  
 Minor components: 15 percent

**Component Descriptions**

**Yeates Hollow soils**

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium derived from conglomerate, sandstone, and quartzite  
*Slope:* 3 to 15 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 4.2 inches (low)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Medium  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)  
*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, slender wheatgrass, Letterman's needlegrass, Nevada bluegrass, Saskatoon serviceberry, antelope bitterbrush, birchleaf mountain mahogany, common yarrow, elk sedge, sheep fescue  
*Land capability subclass (nonirrigated):* 6s

*Typical Profile:*

A—0 to 12 inches; very stony loam  
 Bt1—12 to 25 inches; very cobbly clay  
 Bt2—25 to 37 inches; very cobbly clay  
 Bt3—37 to 43 inches; extremely cobbly clay loam  
 R—43 to 53 inches; bedrock

**Henefer soils**

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium derived from quartzite, sandstone, and shale  
*Slope:* 3 to 15 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 7.0 inches (moderate)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Medium

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Oak)

*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass, elk sedge, mountain big sagebrush, slender wheatgrass, thickleaf peavine

*Land capability subclass (nonirrigated):* 4e

#### *Typical Profile:*

A1—0 to 7 inches; gravelly loam

A2—7 to 12 inches; gravelly loam

Bt1—12 to 21 inches; cobbly clay

Bt2—21 to 30 inches; cobbly clay

Bt3—30 to 37 inches; very gravelly clay loam

Bt4—37 to 43 inches; very gravelly clay loam

Bt5—43 to 50 inches; very cobbly sandy clay loam

BC—50 to 60 inches; very cobbly sandy clay loam

#### **Minor Components**

Ant Flat and similar soils

*Composition:* About 6 percent

*Landform:* Fan remnants

*Slope:* 2 to 8 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Heiners and similar soils

*Composition:* About 5 percent

*Landform:* Ridges on mountain slopes

*Slope:* 4 to 15 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

Fewkes and similar soils

*Composition:* About 4 percent

*Landform:* Fan remnants

*Slope:* 8 to 15 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

### **181—Yeates Hollow-Henefer complex, 15 to 30 percent slopes**

#### **Map Unit Setting**

*MLRA:* 47

*Elevation:* 6,200 to 8,400 feet (1,890 to 2,560 meters)

*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)

*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)

*Frost-free period:* 60 to 90 days

#### **Map Unit Composition**

Yeates Hollow and similar soils: 55 percent

Henefer and similar soils: 30 percent

Minor components: 15 percent

#### **Component Descriptions**

##### **Yeates Hollow soils**

*Landform:* Mountain slopes

*Parent material:* Slope alluvium and colluvium derived from conglomerate, sandstone, and quartzite

*Slope:* 15 to 30 percent

*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 4.2 inches (low)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* High

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, slender wheatgrass, Letterman's needlegrass, Nevada bluegrass, Saskatoon serviceberry, antelope bitterbrush, birchleaf mountain mahogany, common yarrow, elk sedge, sheep fescue

*Land capability subclass (nonirrigated):* 6s

*Typical Profile:*

A—0 to 12 inches; very stony loam  
 Bt1—12 to 25 inches; very cobbly clay  
 Bt2—25 to 37 inches; very cobbly clay  
 Bt3—37 to 43 inches; extremely cobbly clay loam  
 R—43 to 53 inches; bedrock

**Henefer soils**

*Landform:* Mountain slopes  
*Parent material:* Slope alluvium and colluvium derived from quartzite, sandstone, and shale  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 7.0 inches (moderate)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* High  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)  
*Sodicity maximum:* About 0 SAR (nonsodic)  
*Ecological site:* Mountain Loam (Oak)  
*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass, elk sedge, mountain big sagebrush, slender wheatgrass, thickleaf peavine  
*Land capability subclass (nonirrigated):* 6e

*Typical Profile:*

A1—0 to 7 inches; gravelly loam  
 A2—7 to 12 inches; gravelly loam  
 Bt1—12 to 21 inches; cobbly clay  
 Bt2—21 to 30 inches; cobbly clay  
 Bt3—30 to 37 inches; very gravelly clay loam  
 Bt4—37 to 43 inches; very gravelly clay loam  
 Bt5—43 to 50 inches; very cobbly sandy clay loam  
 BC—50 to 60 inches; very cobbly sandy clay loam

**Minor Components**

Ant Flat and similar soils  
*Composition:* About 6 percent  
*Landform:* Fan remnants  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Heiners and similar soils  
*Composition:* About 5 percent

*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)  
*Drainage class:* Well drained  
*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

Fewkes and similar soils

*Composition:* About 4 percent  
*Landform:* Mountain slopes  
*Slope:* 15 to 30 percent  
*Drainage class:* Well drained  
*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

**182—Yeates Hollow-Henefer complex, 30 to 60 percent slopes****Map Unit Setting**

*MLRA:* 47  
*Elevation:* 5,600 to 8,400 feet (1,707 to 2,560 meters)  
*Mean annual precipitation:* 16 to 22 inches (405 to 560 millimeters)  
*Average annual air temperature:* 40 to 45 degrees F. (4 to 7 degrees C.)  
*Frost-free period:* 60 to 90 days

**Map Unit Composition**

Yeates Hollow and similar soils: 55 percent  
 Henefer and similar soils: 30 percent  
 Minor components: 15 percent

**Component Descriptions****Yeates Hollow soils**

*Landform:* Mountain slopes  
*Parent material:* Colluvium derived from conglomerate, sandstone, and quartzite  
*Slope:* 30 to 60 percent  
*Depth to restrictive feature:* 40 to 60 inches to bedrock (lithic)  
*Drainage class:* Well drained  
*Slowest permeability:* About 0.06 in/hr (slow)  
*Available water capacity:* About 4.2 inches (low)  
*Shrink-swell potential:* About 4.5 LEP (moderate)  
*Flooding hazard:* None  
*Seasonal water table minimum depth:* Greater than 6 feet  
*Runoff class:* Very high  
*Calcium carbonate maximum:* None  
*Gypsum maximum:* None  
*Salinity maximum:* About 0 mmhos/cm (nonsaline)



*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Stony Loam (Mountain Big Sagebrush)

*Potential native vegetation:* bluebunch wheatgrass, mountain big sagebrush, slender wheatgrass, Letterman's needlegrass, Nevada bluegrass, Saskatoon serviceberry, antelope bitterbrush, birchleaf mountain mahogany, common yarrow, elk sedge, sheep fescue

*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A—0 to 12 inches; very stony loam  
Bt1—12 to 25 inches; very cobbly clay  
Bt2—25 to 37 inches; very cobbly clay  
Bt3—37 to 43 inches; extremely cobbly clay loam  
R—43 to 53 inches; bedrock

**Henefer soils**

*Landform:* Mountain slopes

*Parent material:* Colluvium derived from quartzite, sandstone, and shale

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Slowest permeability:* About 0.06 in/hr (slow)

*Available water capacity:* About 7.0 inches (moderate)

*Shrink-swell potential:* About 4.5 LEP (moderate)

*Flooding hazard:* None

*Seasonal water table minimum depth:* Greater than 6 feet

*Runoff class:* Very high

*Calcium carbonate maximum:* None

*Gypsum maximum:* None

*Salinity maximum:* About 0 mmhos/cm (nonsaline)

*Sodicity maximum:* About 0 SAR (nonsodic)

*Ecological site:* Mountain Loam (Oak)

*Potential native vegetation:* Gambel's oak, mountain snowberry, Kentucky bluegrass, Oregon grape, Saskatoon serviceberry, bluebunch wheatgrass, elk sedge, mountain big sagebrush, slender wheatgrass, thickleaf peavine

*Land capability subclass (nonirrigated):* 7e

*Typical Profile:*

A1—0 to 7 inches; gravelly loam  
A2—7 to 12 inches; gravelly loam  
Bt1—12 to 21 inches; cobbly clay  
Bt2—21 to 30 inches; cobbly clay  
Bt3—30 to 37 inches; very gravelly clay loam  
Bt4—37 to 43 inches; very gravelly clay loam

Bt5—43 to 50 inches; very cobbly sandy clay loam

BC—50 to 60 inches; very cobbly sandy clay loam

**Minor Components**

Fewkes and similar soils

*Composition:* About 6 percent

*Landform:* Mountain slopes

*Slope:* 30 to 60 percent

*Drainage class:* Well drained

*Ecological site:* Mountain Loam (Mountain Big Sagebrush)

Heiners and similar soils

*Composition:* About 5 percent

*Landform:* Ridges on mountain slopes

*Slope:* 30 to 70 percent

*Depth to restrictive feature:* 10 to 20 inches to bedrock (paralithic)

*Drainage class:* Well drained

*Ecological site:* Upland Shallow Loam (Mountain Big Sagebrush)

Rock outcrop

*Composition:* About 4 percent

*Landforms:* Escarpments on mountain slopes, ridges on mountain slopes

**183—Water**

**Map Unit Setting**

MLRA: 47

**Map Unit Composition**

Water: 100 percent

**184—Dams**

**Map Unit Setting**

MLRA: 47

**Map Unit Composition**

Dams: 100 percent

**Component Descriptions**

**Dams**

*Description:* Dams are a barrier built across a watercourse for impounding water.



# Use and Management of the Soils

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This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

## Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and

indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

## Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *slightly limited*, *somewhat limited*, and *very limited*. The suitability ratings are expressed as *well suited*, *moderately well suited*, *poorly suited*, and *unsuited* or as *good*, *fair*, and *poor*.

## Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

## Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

About 42,000 acres in the survey area is used for irrigated crops and pasture. Of this, about 24,000 acres is used for hay and pasture; about 2,000 acres is used

for oats, wheat, or barley; and about 16,000 acres is used for irrigated pasture. About 3,500 additional acres is used for non-irrigated pasture and hay (Utah State Historical Society, 1988). The majority of the farmland is located in the valley areas near Henefer, Coalville, Hoytsville, Wanship, Oakley, Marion, Kamas, Francis, and Snyderville.

The potential for increasing the acreage of cropland is limited by the lack of suitable soils and the shortage of irrigation water. Production on existing farmland could be increased by implementation of the latest cropland technology.

Rotating alfalfa every six or seven years helps to keep quack grass under control. When reseeding alfalfa after the rotation, using a better variety of alfalfa or alfalfa grass mix will improve yield and be more effective in controlling quack grass. Irrigated pasture may also be improved by inter-seeding such plants as garrison meadow foxtail, reed canary grass, meadow bromes, or orchard grass, mixed with one of the desirable legumes. The use of proper stocking rates and restricted grazing during wet periods helps to maintain pastures in good condition.

Using and distributing irrigation water efficiently, maintaining soil fertility, and rotating livestock to allow better growing conditions for the forage crops are the main management objectives on the irrigated soils in the survey area.

Frequency and duration of the application of irrigation water should be considered. The irrigation method to be used depends upon the type of crop grown, soil characteristics, slope, and the water supply. Irrigation water should be applied in amounts large enough to wet the root zone but small enough to minimize the leaching of plant nutrients. The application of animal manure and commercial fertilizer is necessary to maintain soil fertility. Legumes generally respond readily to phosphorus, and grasses respond readily to nitrogen. All additions of fertilizer should be based on the result of soil tests, cropping history, crop needs, and the desired level of crop yields. Fertilizer applications should be in agreement with the latest recommendations of the Cooperative Extension Service and the Agricultural Experiment Station.

In general soils used for crop production in the survey area have a dark-colored loam surface layer that is moderate in content of organic matter. These soils commonly have good tilth. Regular additions of crop residue, manure, and other organic material help to maintain and improve the tilth and water intake rate.

Farmland soils occurring on the fan remnant positions in the survey area are the well drained Ant Flat, Manila, Dastrup, Fewkes, Henefer, and Harter

soils. These soils are used mainly for the production of irrigated hay, pasture, and small grains. Farmland soils occurring on the floodplains and stream terrace positions are the poorly drained Kovich and Toddspan soils, the somewhat poorly drained Wanship soils, and the well drained Echocreek and Snyderville soils. These soils are used mainly for the production of irrigated hay and pasture.

The growing season in the survey area is short, and frost frequently occurs late in the spring and early in the fall. The climate is too severe for early vegetables, small fruit, and orchards. The latest information and suggestions for growing special crops can be obtained from the local offices of the Cooperative Extension Service or the Natural Resources Conservation Service.

### **Yields per Acre**

The average yields per acre that can be expected of the principal irrigated crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.



Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

### Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit.

*Capability classes*, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

*Capability subclasses* are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

The capability classification of map units in this survey area is given in the section "Detailed Soil Map Units" and in the yields table.

### Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not

excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. The slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 23,000 acres of the survey area, or about 3 percent, would meet the requirements for prime farmland if an adequate and dependable supply of irrigation water were available. Most of this land is located near the towns of Coalville, Henefer, Oakley, Marion, and Francis. The major crops grown in the Summit County Area are alfalfa hay, pasture, and barley.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland when irrigated are listed in table 6. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

## Rangeland or Forestland Understory

Rangeland is an important resource in the survey area; a large portion of the survey area is used as rangeland. Perennial grasses, shrubs, and forbs are the dominant vegetation, but some areas support a cover of aspen, maple, oak, and coniferous trees.

Upland rangeland areas are used for the grazing of cattle and sheep primarily in the winter; the mountain areas are used for grazing mainly in the spring and fall; and the high mountain areas are used for grazing mainly in the summer. Stock water generally is adequate and is supplemented by streams, springs, reservoirs, or wells.

The productivity of rangeland can be increased by using such management practices as planned grazing systems, deferred grazing, brush management, fencing, water development, and reseeding. The practices used or recommended for use should include

consideration of the soils, the ecological site, and the specific type of operation.

In areas that have similar climate and topography, differences in the kind and amount of rangeland or forest understory vegetation are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

Table 7 shows, for each soil that supports vegetation suitable for grazing, the ecological site; the total annual production of vegetation in favorable, normal, and unfavorable years; the characteristic vegetation; and the average percentage of each species. An explanation of the column headings in table 7 follows.

An *ecological site* is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of the site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service.

*Total dry-weight production* is the amount of vegetation that can be expected to grow annually in a well managed area that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

*Characteristic vegetation*—the grasses, forbs, and shrubs that make up most of the potential natural plant

community on each soil—is listed by common name. Under *rangeland composition*, the expected percentage of the total annual production is given for each species making up the characteristic vegetation. The amount that can be used as forage depends on the kinds of grazing animals and on the grazing season.

Range management requires a knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in chapter 4 of the “National Range and Pasture Handbook,” which is available in local offices of the Natural Resources Conservation Service.

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

### **Climatic Regimes and Their Effects on Range**

Precipitation and climate are important environmental factors influencing the kind, amount, and distribution of vegetation. Plants growing on the range in different parts of the survey area are affected by differences in the kind of soil and by differences in climate.

Three climatic regimes are recognized in the survey area. These regimes are determined on the basis of differences in the amount of moisture received, the average annual temperature, and the length of the growing season. The climatic regimes in the survey area are Upland, Mountain, and High Mountain. In addition, some sites are recognized as azonal, where the influence of flooding, a high water table, or some other factor is strong enough to override climate as a controlling factor.

*Upland climatic regime:* In this regime, the average precipitation ranges from 14 to 16 inches and the average annual air temperature is 40 to 45 degrees F. The average frost-free period is 70 to 100 days. Elevations range from 5,200 to 8,000 feet. The ecological or woodland sites in this climatic regime are Upland Loam (Basin Wild Rye), Upland Loam (Mountain Big Sagebrush), Upland Loamy Shale (Low Sagebrush), Upland Shallow Loam (Wyoming Big Sagebrush), Upland Shallow Loam (Utah Juniper), and Upland Stony Loam (Mountain Big Sagebrush).

*Mountain climatic regime:* In this regime, the average annual precipitation ranges from 16 to 22 inches and the average annual air temperature is 40 to 45 degrees F. The average frost-free period is 60 to 90 days. Elevations range from 5,200 to 8,400 feet. The ecological or woodland sites in this climatic regime are Mountain Gravelly Loam (Mountain Big Sagebrush), Mountain Gravelly Loam (Oak), Mountain Loam (Mountain Big Sagebrush), Mountain Loam (Oak), Mountain Shallow Loam (Mountain Big Sagebrush), Mountain Stony Loam (Mountain Big Sagebrush), and Mountain Stony Loam (Oak).

*High Mountain climatic regime:* In this regime, the average annual precipitation ranges from 22 to 35 inches and the average annual air temperature is 35 to 40 degrees F. The average frost-free period is 20 to 60 days. Elevations range from 5,600 to 11,200 feet. The ecological or woodland sites in this climatic regime are Alpine Meadow (Alpine Timothy), High Mountain Gravelly Loam (Mountain Big Sagebrush), High Mountain Loam (Aspen), High Mountain Loam (Mountain Big Sagebrush), High Mountain Loam (Silver Sagebrush), High Mountain Stony Loam (Aspen), High Mountain Stony Loam (Douglas Fir), High Mountain Stony Loam (Lodgepole Pine), and High Mountain Stony Loam (Mixed Conifer).

*Azonal areas:* Two azonal range sites are in the survey area. The average annual precipitation ranges from 16 to 35 inches, and the average annual air temperature is 35 to 45 degrees F. The average frost-free period is 20 to 90 days. Elevations range from 5,200 to 10,800 feet. Plant communities in these ecological sites receive additional moisture from a water table or as runoff from adjacent soils. The azonal ecological sites are Semi-wet Fresh Meadow (Sedge) and Wet Fresh Meadow (Redtop).

### **Forest Productivity and Management**

The tables in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood

crops and rate the soils according to the limitations that affect various aspects of forest management.

### Forest Productivity

In table 8, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

### Recreation

The survey area provides a wide variety of recreational activities. It includes areas that are popular for hunting of big game such as mule deer and elk, and for hunting of game birds such as grouse, pheasants, and waterfowl. Echo and Rockport Reservoirs are popular areas for camping, boating, and fishing. Ski areas and resorts in the area include Solitude and Brighton in Big Cottonwood Canyon; Alta and Snowbird in Little Cottonwood Canyon; Park City and Deer Valley near Park City; and Park West near Snyderville. Historic areas include the Mormon Trail and the Pony Express Trail across the northern part of the survey area, and the gold and silver mines near Park City.

The soils of the survey area are rated in tables 9A and 9B according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low

maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 9A and 9B can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

*Camp areas* require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas.

The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation,



especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Picnic areas* are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Playgrounds* require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

*Paths and trails* for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

*Off-road motorcycle trails* require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These

properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

*Golf fairways* are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

## Wildlife Habitat

Most soils in the survey area support vegetation that is used by wildlife to some extent. Most species of wildlife are not confined to areas of a particular soil or group of soils. The presence of wildlife in a given area is dependent upon the availability of food, water, and cover, and their relationships to each other. The suitability of the soil for providing these elements and how the soil is used determines the relative abundance of wildlife species in the area.

The mountainous lands of the survey area provide summer habitat for mule deer, moose, and elk. Winter habitat for these species is provided by southern exposed foothills and wind swept ridges. Other important species in the mountainous area include coyote, snowshoe hare, blue grouse, ruffed grouse, Steller's jay, western toad, green snake, and an occasional black bear. The uplands of the survey area provide seasonal habitat for some of these species. Additional species occupying this area include badger, bobcat, mule deer, ground squirrel, pheasants, western meadowlark, Swainson's hawk, and garter snake. Wetlands and adjacent areas provide a diverse habitat. A variety of species utilize wetland areas, including raccoon, skunk, cottontail, blackbirds, hawks, ducks, geese, tiger salamander, and garter snake.

Natural streams and lakes in the survey area provide fishing and recreation for local residents and tourists alike. These occur throughout the survey area. Additional fishing is provided by several reservoirs. Fish species important to the area include rainbow trout, cutthroat trout, and other game fish. These water bodies and associated vegetation provide important habitat for beaver, muskrat, and mink.

The endangered bald eagle and peregrine falcon are known to travel within the survey area. These species are migrants. The bald eagle is more prevalent during winter months along streams and lakes. There is potential habitat for the endangered black-footed ferret in the northern part of the survey area. They are found in prairie dog towns in open short grass areas. There are no known endangered or threatened fish species in the area.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 10, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

*Grain and seed crops* are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are wheat, oats, and barley.

*Grasses and legumes* are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, brome grass, clover, and alfalfa.

*Wild herbaceous plants* are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluegrass, sunflower, wheatgrass, and lupine.

*Coniferous plants* furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, spruce, fir, and juniper.

*Shrubs* are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs are depth of the root zone, available water capacity, salinity, and soil moisture. Examples of shrubs are mountain mahogany, bitterbrush, snowberry, and big sagebrush.

*Wetland plants* are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are redtop, tufted hairgrass, oatgrass, saltgrass, rushes, and sedges.

*Shallow water areas* have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, reservoirs, streams, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

*Habitat for openland wildlife* consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include red tail hawk, pheasant, meadowlark,

field sparrow, meadow mole, jackrabbit, cottontail, and red fox.

*Habitat for woodland wildlife* consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include elk, ruffed grouse, martin, woodpeckers, squirrels, raccoon, deer, and bear.

*Habitat for wetland wildlife* consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

*Habitat for rangeland wildlife* consists of areas of shrubs and wild herbaceous plants. Wildlife attracted to rangeland include mule deer, sage grouse, meadowlark, and mourning dove.

## Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (USDA, 1999) and "Keys

to Soil Taxonomy" (USDA, 1998), and in the "Soil Survey Manual" (USDA, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in "Field Indicators of Hydric Soils in the United States" (Hurt, 1996).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The following map units meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt, 1996).

- 122—Duchesne-Haydenfork complex, 0 to 40 percent slopes
- 127—Echocreek-Kovich loams, 0 to 10 percent slopes
- 147—Hovarka-Millcreek loams, 0 to 4 percent slopes
- 149—Kovich-Toddspan loams, 0 to 3 percent slopes
- 166—Sessions-Haydenfork complex, 0 to 15 percent slopes
- 179—Wanship-Kovich loams, 0 to 3 percent slopes

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The following map units, in general, do not meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

- 119—Duchesne very cobbly sandy loam, 2 to 15 percent slopes

- 120—Duchesne very cobbly sandy loam, 15 to 30 percent slopes
- 121—Duchesne very cobbly sandy loam, 30 to 60 percent slopes
- 126—Echocreek loam, 2 to 10 percent slopes
- 156—Manila-Harter complex, 2 to 8 percent slopes
- 167—Sessions-Skutum loams, 2 to 15 percent slopes
- 168—Sessions-Uinta complex, 2 to 30 percent slopes
- 169—Skutum loam, 2 to 15 percent slopes
- 170—Skutum loam, 15 to 30 percent slopes
- 171—Skutum loam, 30 to 60 percent slopes
- 172—Skutum-Uinta association, 15 to 30 percent slopes
- 173—Skutum-Uinta association, 30 to 60 percent slopes
- 174—Snyderville cobbly loam, 1 to 5 percent slopes
- 175—Snyderville cobbly loam, 5 to 10 percent slopes
- 176—Snyderville gravelly loam, 1 to 5 percent slopes
- 177—Uinta-Duchesne complex, 8 to 30 percent slopes
- 178—Wanship loam, 0 to 3 percent slopes

## Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

*Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.*

*The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.*

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size

distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

## Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 11A and 11B show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Somewhat*



*limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial buildings* are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and

compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Local roads and streets* have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

*Shallow excavations* are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

*Lawns and landscaping* require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

## Sanitary Facilities

Tables 12A and 12B show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Septic tank absorption fields* are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

*Sewage lagoons* are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

*A trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the

movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

*Daily cover for landfill* is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

### Construction Materials

Tables 13A and 13B give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

*Sand* and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 13A, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The soils are rated *good*, *fair*, or *poor* as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

*Topsoil* is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

*Reclamation material* is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

*Roadfill* is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its

strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

## Water Management

Table 14 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

*Pond reservoir areas* hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

*Embankments, dikes, and levees* are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

*Aquifer-fed excavated ponds* are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment



ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the

aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.



# Soil Properties

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Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

## Engineering Index Properties

Table 15 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 1998) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 1998).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

*Rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

*Liquid limit and plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

## Physical Properties

Table 16 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Particle size* is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

*Sand* as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In table 16, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In table 16, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 16, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity,

the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

*Moist bulk density* is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at  $1/3$ - or  $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

*Permeability* ( $K_{sat}$ ) refers to the ability of a soil to transmit water or air. The term “permeability,” as used in soil surveys, indicates saturated hydraulic conductivity ( $K_{sat}$ ). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at  $1/3$ - or  $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is



low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In table 16, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

*Erosion factors* are shown in table 16 as the K factor ( $K_w$  and  $K_f$ ) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor  $K_w$*  indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor  $K_f$*  indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.

3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.

5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.

6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.

7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.

8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

## Chemical Properties

Table 17 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Cation-exchange capacity* is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

*Effective cation-exchange capacity* refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

*Soil reaction* is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field

tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

*Calcium carbonate* equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

*Gypsum* is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

*Salinity* is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

*Sodium adsorption ratio* (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

## Water Features

Table 18 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

*Hydrologic soil groups* are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

*Water table* refers to a saturated zone in the soil. Table 18 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

*Ponding* is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 18 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than

once in 2 years (the chance of ponding is more than 50 percent in any year).

*Flooding* is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

*Duration and frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

## Soil Features

Table 19 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness

and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*Subsidence* is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

*Potential for frost action* is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

*Risk of corrosion* pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.



# Classification of the Soils

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The system of soil classification used by the National Cooperative Soil Survey has six categories (USDA, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 20 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

**ORDER.** Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Mollisol.

**SUBORDER.** Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Xeroll (*Xer*, meaning xeric moisture regime, plus *oll*, from Mollisol).

**GREAT GROUP.** Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Argixerolls (*Argi*, meaning the presence of an argillic horizon, plus *xeroll*, the suborder of the Mollisols that has a xeric moisture regime).

**SUBGROUP.** Each great group has a typical subgroup. Other subgroups are intergrades or extragrades. The typical subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Argixerolls.

**FAMILY.** Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine, smectitic, frigid Typic Argixerolls.

**SERIES.** The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

## Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (USDA, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (USDA, 1999) and in "Keys to Soil Taxonomy" (USDA, 1998). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

### Agassiz Series

The Agassiz series consists of shallow, somewhat excessively drained, moderately permeable soils on mountain slopes and ridges. These soils formed in colluvium derived from limestone. The slopes are 30 to 70 percent. The elevation ranges from 5,200 to 8,200 feet. The average annual precipitation is 16 to 22



inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are loamy-skeletal, mixed, superactive, frigid Lithic Haploxerolls.

A typical pedon of Agassiz very cobbly loam in an area of Agassiz-Rock outcrop complex, 30 to 70 percent slopes; about 1/2 mile north of Park City, Utah, about 1,000 feet west and 200 feet north of the southeast corner of sec. 9, T. 2 S., R. 4 E.

A1—0 to 6 inches; very dark brown (10YR 2/2) very cobbly loam, very dark grayish brown (10YR 3/2) dry; weak fine granular structure; soft, friable, slightly sticky and slightly plastic; common very fine, few fine and medium roots; few very fine vesicular pores; 25 percent cobbles and 25 percent gravel, neutral (pH 7.2); clear smooth boundary.

A2—6 to 14 inches; very dark grayish brown (10YR 3/2) very cobbly loam, dark grayish brown (10YR 4/2) dry; weak medium subangular blocky structure parting to weak fine and medium granular; soft, friable, slightly sticky and slightly plastic; few very fine, fine and medium roots; few very fine tubular pores; 30 percent gravel and 20 percent cobbles; neutral (pH 7.2); abrupt irregular boundary.

R—14 inches; fractured limestone.

Bedrock is at a depth of 10 to 20 inches. The mollic epipedon is 10 to 20 inches thick.

*A horizons:* The value is 2 or 3 moist, 3 or 4 dry; and the chroma is 2 or 3 moist or dry. The clay content is 18 to 27 percent. The content of rock fragments is 35 to 60 percent. The reaction is slightly acid or neutral.

## Ant Flat Series

The Ant Flat series consists of very deep, well drained, slowly permeable soils on fan remnants and mountain slopes. These soils formed in alluvium derived from conglomerate, sandstone, and shale. The slopes are 2 to 30 percent. The elevation ranges from 5,400 to 8,200 feet. The average annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are fine, smectitic, frigid Calcic Argixerolls.

A typical pedon of Ant Flat loam, 8 to 15 percent slopes in an area of Manila-Ant Flat loams, 2 to 8 percent slopes; about 1/4 mile southwest of Kimball Junction, about 1,000 feet south and 300 feet east of the northwest corner of sec. 19, T. 1 S., R. 4 E.

A—0 to 13 inches; very dark grayish brown (10YR 3/2) loam, dark grayish brown (10YR 4/2) dry; moderate and weak medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, common fine, and few medium roots; many very fine vesicular pores; 5 percent gravel; neutral (pH 6.6); clear smooth boundary.

Bt1—13 to 19 inches; very dark grayish brown (10YR 3/2) clay loam, brown (10YR 5/3) dry; moderate medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; many very fine and fine and common medium roots; many very fine tubular pores; few faint clay films on faces of peds; 5 percent gravel; neutral (pH 6.8); gradual smooth boundary.

Bt2—19 to 30 inches; brown (7.5YR 5/4) clay, light brown (7.5YR 6/4) dry; strong medium subangular blocky structure; extremely hard, very firm, very sticky and very plastic; many very fine, common fine and few medium roots; common very fine tubular pores; common faint clay films on faces of peds; 10 percent gravel; neutral (pH 7.2); abrupt smooth boundary.

Bk1—30 to 45 inches; reddish brown (5YR 5/4) clay loam, light reddish brown (5YR 6/3) dry; moderate medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine and few fine roots; common very fine tubular pores; 5 percent gravel; strongly effervescent; carbonates are segregated and in filaments; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk2—45 to 60 inches; reddish brown (5YR 5/4) clay loam, light reddish brown (5YR 6/3) dry; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine roots; 10 percent gravel; strongly effervescent; carbonates are segregated; moderately alkaline (pH 8.4).

Secondary carbonates begin at a depth of 18 to 36 inches. The mollic epipedon is 10 to 19 inches thick. The particle-size control section averages 35 to 45 percent clay and 0 to 15 percent rock fragments.

*A horizon:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 3 or 4 dry; and the chroma is 2 or 3 moist or dry.

*Bt horizons:* The hue is 7.5YR or 5YR; the value is 3 to 5 moist, 4 to 6 dry; and the chroma is 2 to 4 moist or dry. The texture is clay loam or clay.

*Bk horizons:* The hue is 7.5YR or 5YR; the value is 4 to 6 moist, 5 to 7 dry; and the chroma is 3 or 4 moist

or dry. The texture is clay loam or clay. The calcium carbonate equivalent is 15 to 30 percent. The reaction ranges from slightly alkaline to strongly alkaline.

## Ayoub Series

The Ayoub series consists of moderately deep, well drained, moderately slowly permeable soils on mountain slopes. These soils formed in residuum, slope alluvium, and colluvium derived dominantly from andesite. The slopes are 2 to 60 percent. The elevation ranges from 5,800 to 8,000 feet. The average annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are fine-loamy, mixed, superactive, frigid Typic Argixerolls.

A typical pedon of Ayoub cobbly loam in an area of Ayoub-Dunford Melling complex, 15 to 30 percent slopes; about 4<sup>1</sup>/<sub>4</sub> miles southeast of Silver Creek Junction, about 700 feet east and 300 feet north of the southwest corner of sec. 36, T. 1 S., R. 4 E.

A—0 to 6 inches; very dark grayish brown (10YR 3/2) cobbly loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; 15 percent cobbles and 15 percent gravel; slightly acid (pH 6.4); abrupt wavy boundary.

Bt1—6 to 12 inches; very dark grayish brown (10YR 3/2) gravelly clay loam, dark grayish brown (10YR 4/2) dry; weak and moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine roots; common very fine pores; few prominent clay films on faces of peds; 20 percent gravel; slightly acid (pH 6.4); clear smooth boundary.

Bt2—12 to 18 inches; dark brown (10YR 3/3) gravelly clay loam, brown (10YR 4/3) dry; moderate medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine pores; few prominent clay films on faces of peds; 25 percent gravel; neutral (pH 6.6); clear smooth boundary.

Bt3—18 to 23 inches; brown (10YR 4/3) gravelly clay loam, brown (10YR 5/3) dry; weak and moderate medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine pores; few faint clay films on faces of peds; 25 percent gravel; neutral (pH 6.6); clear wavy boundary.

C—23 to 35 inches; dark grayish brown (10YR 4/2) very cobbly loam, grayish brown (10YR 5/2) dry; massive; slightly hard, friable, slightly sticky and

slightly plastic; few very fine roots; 35 percent gravel and 20 percent cobbles; neutral (pH 6.8); clear smooth boundary.

R—35 inches; andesite.

Bedrock is at a depth of 20 to 40 inches. The mollic epipedon is 10 to 20 inches thick. The particle-size control section averages 27 to 35 percent clay and 15 to 35 percent rock fragments.

*A horizon:* The value is 2 or 3 moist, 4 or 5 dry; and the chroma is 2 or 3 dry. The content of rock fragments is 15 to 35 percent. The reaction is slightly acid or neutral.

*Bt horizons:* The value is 3 to 5 moist and 4 to 6 dry; and the chroma is 2 to 4 moist or dry. The reaction is slightly acid or neutral.

*C horizon:* The hue is 10YR or 2.5Y; the value is 3 to 5 moist and 5 to 7 dry; and the chroma is 2 to 4 moist or dry. The texture is very cobbly loam, very gravelly loam, or very gravelly sandy clay loam. The reaction is slightly acid or neutral.

## Cluff Series

The Cluff series consists of deep, well drained, slowly permeable soils on mountain slopes. These soils formed in slope alluvium and colluvium derived from conglomerate, quartzite, limestone, and sandstone. The slopes are 8 to 60 percent. The elevation ranges from 6,800 to 10,600 feet. The average annual precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are clayey-skeletal, smectitic Mollic Haplocryalfs

A typical pedon of Cluff loam, 8 to 30 percent slopes; about 1/4 mile west of Porcupine Reservoir, about 2,250 feet west and 1,400 feet south of the northeast corner of sec. 21, T. 3 N., R. 7 E.

A1—0 to 4 inches; dark brown (7.5YR 3/2) loam, dark grayish brown (10YR 4/2) dry; strong very fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine, and common medium roots; few very fine vesicular pores; 10 percent gravel; slightly acid (pH 6.5); clear smooth boundary.

A2—4 to 9 inches; dark brown (7.5YR 3/2) gravelly loam, brown (10YR 5/3) dry; weak medium subangular blocky structure parting to moderate medium granular; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine, and common medium roots; few very fine tubular pores; 15 percent gravel and 5 percent cobbles; slightly acid (pH 6.5); clear smooth boundary.

E—9 to 16 inches; brown (10YR 4/3) very gravelly loam, light brown (7.5YR 6/4) dry; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine, and common medium roots; few very fine tubular pores; 25 percent gravel and 10 percent cobbles; slightly acid (pH 6.5); clear smooth boundary.

Bt/E—16 to 20 inches; the Bt part (70 percent of the horizon) is strong brown (7.5YR 4/6) very cobbly clay loam, brown (7.5YR 5/4) dry; weak fine and medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few faint clay films on faces of peds; the E part (30 percent of the horizon) is brown (10YR 4/3) very cobbly fine sandy loam, light brown (7.5YR 6/4) dry; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic. Both the Bt and E parts have common very fine and fine roots; many very fine tubular pores; 20 percent gravel, 15 percent cobbles and 10 percent stones; slightly acid (pH 6.5); clear wavy boundary.

Bt1—20 to 33 inches; yellowish red (5YR 4/6) very cobbly clay, yellowish red (5YR 5/6) dry; moderate fine and medium subangular blocky structure; extremely hard, very firm, moderately sticky and moderately plastic; few very fine and fine roots; many fine tubular pores; many faint clay films on faces of peds; 25 percent gravel, 20 percent cobbles and 5 percent stones; slightly acid (pH 6.2); gradual wavy boundary.

Bt2—33 to 54 inches; yellowish red (5YR 4/6) very cobbly clay, reddish yellow (5YR 6/6) dry; weak medium and coarse subangular blocky structure; extremely hard, very firm, moderately sticky and moderately plastic; few very fine and fine roots; few fine tubular pores; common faint clay films on faces of peds; 20 percent gravel, 20 percent cobbles and 10 percent stones; slightly acid (pH 6.2); abrupt smooth boundary

R—54 inches; conglomerate.

Bedrock is at a depth of 40 to 60 inches. The particle-size control section averages 35 to 50 percent clay.

*A horizons:* The hue is 7.5YR or 10YR; the value is 2 or 3 moist, 4 or 5 dry; and the chroma is 2 or 3 moist or dry. The texture is loam or gravelly loam. The content of rock fragments is 10 to 25 percent.

*E horizons:* The hue is 7.5YR or 10YR; the value is 3 or 4 moist and 5 or 6 dry; and the chroma is 3 or 4 moist and 2 to 4 dry. The content of rock fragments is 35 to 50 percent.

*Bt horizons:* The hue is 5YR or 7.5YR; the value is 3 or 4 moist, 5 or 6 dry; and the chroma is 4 to 6 moist

or dry. The texture is very cobbly clay, very cobbly clay loam, or extremely cobbly sandy clay. The content of rock fragments commonly increases with depth and ranges from 35 to 70 percent.

## Crandall Series

The Crandall series consists of deep, well drained, moderately slowly permeable soils on mountain slopes, kame moraines, and till plains. These soils formed in colluvium, slope alluvium, and glacial till derived from conglomerate and sandstone. The slopes are 2 to 60 percent. The elevation ranges from 7,300 to 11,000 feet. The average annual precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are loamy-skeletal, mixed, superactive Xeric Argicryolls.

A typical pedon of Crandall gravelly loam in an area of Crandall-Lucky Star-Starley Family complex, 30 to 70 percent slopes; about 2 miles east of Boyer Lake, about 1,200 feet south and 1,200 feet west of the northeast corner of sec. 36, T. 2 N., R. 8 E.

A1—0-5 inches; very dark brown (7.5YR 2.5/2) gravelly loam, brown (7.5YR 4/3) dry; weak fine granular structure; soft very friable, slightly sticky and slightly plastic; many very fine, few fine and medium roots; many very fine interstitial pores; 1 percent stones, 10 percent cobbles, and 20 percent gravel; neutral (pH 6.8); clear smooth boundary.

A2—5-14 inches; dark brown (7.5YR 3/3) gravelly loam, brown (7.5YR 5/3) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, few fine, and medium roots; many very fine interstitial pores; 1 percent stones, 10 percent cobbles, and 20 percent gravel; neutral (pH 6.8); clear wavy boundary.

Bt—14-45 inches; brown (7.5YR 4/4) very cobbly clay loam, light brown (7.5YR 6/4) dry; moderate fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many very fine and few fine roots; many very fine interstitial pores; few faint clay films on faces of peds; 5 percent stones, 15 percent cobbles, and 20 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bk—45-55 inches; brown (7.5YR 4/4) very cobbly loam, light brown (7.5 6/4) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; 5 percent stones; 20 percent cobbles, and 30

percent gravel; slightly alkaline (pH 7.8) ; slightly effervescent; abrupt irregular boundary.

R—55 inches; conglomerate bedrock

The mollic epipedon is 10 to 16 inches thick. Bedrock is at a depth of 40 to 60 inches. The particle-size control section averages 25 to 35 percent clay and 35 to 60 percent rock fragments.

*A horizons:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 4 or 5 dry; and the chroma is 2 or 3 moist or dry. The reaction is neutral or slightly acid.

*Bt horizon:* The hue is 5YR, 7.5YR, or 10YR; the value is 3 or 4 moist, 4 to 6 dry; and the chroma is 3 to 6 moist or dry. The texture is very gravelly loam, very cobbly loam, and very cobbly clay loam.

*Bk horizon:* The hue is 5YR, 7.5YR, or 10YR; the value is 4 or 5 moist, 5 or 6 dry; and the chroma is 4 to 6 moist or dry. The texture is very cobbly loam or very gravelly loam.

## Cutoff Series

The Cutoff series consists of moderately deep, well drained, moderately permeable soils on mountain slopes. These soils formed in colluvium and slope alluvium derived from sandstone, conglomerate, and quartzite. The slopes are 15 to 60 percent. The elevation ranges from 5,300 to 7,200 feet. The average annual precipitation is 14 to 16 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are loamy-skeletal, mixed, superactive, frigid Typic Calcixerepts.

A typical pedon of Cutoff very gravelly loam in an area of Horrocks-Cutoff complex, 15 to 30 percent slopes; about 4 miles northeast of Henefer, about 200 feet west and 2,200 feet north of the southeast corner of sec. 22, T. 4 N., R. 4 E.

A1—0 inches to 1 inch; dark brown (7.5YR 3/4) very gravelly loam, brown (7.5YR 4/4) dry; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and medium roots; 35 percent gravel and 10 percent cobbles; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—1 inch to 9 inches; reddish brown (5YR 4/4) very gravelly loam, yellowish red (5YR 4/6) dry; weak fine subangular blocky structure parting to moderate fine granular; soft, very friable, slightly sticky and slightly plastic; common very fine and medium roots; few fine pores; 30 percent gravel and 5 percent cobbles; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.2); clear smooth boundary.

Bk1—9 to 16 inches; red (2.5YR 4/6) very gravelly loam, yellowish red (5YR 5/8) dry; weak medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; few very fine and medium roots; common very fine pores; 30 percent gravel and 5 percent cobbles; strongly effervescent; carbonates are disseminated, with thin lime coatings on undersides of rock fragments; strongly alkaline (pH 8.5); abrupt wavy boundary.

Bk2—16 to 29 inches; yellowish red (5YR 5/8) very gravelly loam, reddish yellow (5YR 6/6) dry; massive; slightly hard, friable, slightly sticky and nonplastic; few very fine and fine roots; 55 percent gravel; strongly effervescent; carbonates are disseminated, with thin lime coatings on undersides of rock fragments; strongly alkaline (pH 8.8); abrupt wavy boundary.

Bk3—29 to 38 inches; red (2.5YR 4/6) very gravelly loam, reddish yellow (5YR 6/6) dry; massive; hard, friable, slightly sticky and nonplastic; few very fine and fine roots; 50 percent gravel; strongly effervescent; carbonates are disseminated, with thin lime coatings on undersides of rock fragments; strongly alkaline (pH 8.8); abrupt wavy boundary.

R—38 inches; conglomerate.

Bedrock is at a depth of 20 to 40 inches. The particle-size control section averages 18 to 27 percent clay.

*A horizons:* The hue is 7.5YR or 5YR; the value is 3 or 4 moist, 4 or 5 dry; and the chroma is 3 to 6 moist or dry. The content of rock fragments is 35 to 45 percent. The reaction is slightly alkaline or moderately alkaline.

*Bk horizons:* The hue is 2.5YR to 7.5YR; the value is 3 to 5 moist, 4 to 6 dry; and the chroma is 4 to 8 moist or dry. The texture is very gravelly loam or very cobbly loam. The content of rock fragments is 35 to 55 percent. The calcium carbonate equivalent is 15 to 30 percent.

## Dastrup Series

The Dastrup series consists of very deep, well drained, moderately to moderately slowly permeable soils on fan remnants. These soils formed in slope alluvium derived from sandstone, siltstone, and conglomerate. The slopes are 2 to 30 percent. The elevation ranges from 5,400 to 6,600 feet. The average annual precipitation is 14 to 16 inches and the mean annual air temperature is 40 to 45 degrees F.



These soils are fine-loamy, mixed, superactive, frigid Typic Calcixerolls.

A typical pedon of Dastrup loam, 15 to 30 percent slopes, about 1½ miles west of Coalville, about 2,400 feet west and 1,700 feet north of the southeast corner of sec. 7, T. 2 N., R. 5 E.

A—0 to 12 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 5/3) dry; moderate fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine vesicular pores; slightly effervescent; carbonates are disseminated; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bw—12 to 16 inches; dark grayish brown (10YR 4/2) clay loam, pale brown (10YR 6/3) dry; strong fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine, fine and medium roots; common fine tubular pores; strongly effervescent; carbonates are disseminated; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bk1—16 to 36 inches; yellowish brown (10YR 5/4) loam, very pale brown (10YR 7/4) dry; moderate medium and coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine and medium roots; few very fine tubular pores; strongly effervescent; carbonates are disseminated and veined; moderately alkaline (pH 7.9); clear smooth boundary.

Bk2—36 to 48 inches; yellowish brown (10YR 5/4) loam, very pale brown (10YR 7/4) dry; moderate medium and coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; strongly effervescent; carbonates are disseminated and veined; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bk3—48 to 60 inches; very pale brown (10YR 7/4) loam, very pale brown (10YR 8/2) dry; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; strongly effervescent; carbonates are disseminated and veined; moderately alkaline (pH 8.4).

The mollic epipedon is 10 to 20 inches thick. Secondary carbonates begin at a depth of 10 to 20 inches. The particle-size control section averages 18 to 35 percent clay and less than 20 percent rock fragments.

*A horizon:* The hue is 10YR or 7.5YR; the value is 3 or 4 moist, 4 or 5 dry; and the chroma is 2 or 3 moist or dry. The content of rock fragments is less than 10 percent.

*Bw and Bk horizons:* The hue is 10YR or 7.5YR; the value is 4 to 7 moist, 6 to 8 dry; and the chroma is 2 to 4 moist or dry. The texture is loam, silt loam, clay loam, or gravelly clay loam. The content of rock fragments is less than 20 percent. The reaction is slightly alkaline or moderately alkaline.

## Dromedary Series

The Dromedary series consists of very deep, well drained, moderately permeable soils on mountain slopes. These soils formed in colluvium and glacial till derived from a mixture of sedimentary rocks. The slopes are 15 to 70 percent. The elevation ranges from 5,600 to 10,200 feet. The average annual precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are loamy-skeletal, mixed superactive Mollic Haplocryalfs.

A typical pedon of Dromedary gravelly loam, in an area of Dromedary-Rock outcrop complex, 30 to 70 percent slopes; about ½ mile west of Reynolds Flat, about 850 feet east and 2,300 feet south of the northwest corner of sec. 18, T. 2 S., R. 3 E.

The surface has a 3-inch thick layer of undecomposed leaves, twigs, and needles.

A—0 to 6 inches; very dark grayish brown (10YR 3/2) gravelly loam, brown (10YR 5/3) dry; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; 20 percent gravel and 5 percent cobbles; slightly acid (pH 6.5); abrupt wavy boundary.

E—6 to 22 inches; brown (10YR 4/3) very cobbly sandy loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; many fine interstitial pores; 20 percent cobbles and 20 percent gravel; slightly acid (pH 6.5); gradual wavy boundary.

Bt/E—22 to 44 inches; the Bt part (60 percent of the horizon) is brown (10YR 4/3) very cobbly sandy clay loam, yellowish brown (10YR 5/4) dry; moderate medium and coarse subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; few faint clay films on faces of peds; the E part (40 percent of the horizon) is brown (10YR 4/3) very cobbly sandy loam, pale brown (10YR 6/3) dry; weak medium subangular blocky structure; soft, friable, slightly sticky and slightly plastic. Both the Bt and E parts have few very fine, fine and medium roots; many



fine tubular pores; 20 percent gravel and 15 percent cobbles; slightly acid (pH 6.5); clear wavy boundary.

Bt1—44 to 51 inches; brown (10YR 4/3) very cobbly sandy clay loam, yellowish brown (10YR 5/4) dry; moderate fine and coarse subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine, fine and medium roots; many very fine tubular pores; common faint clay films on faces of peds; 35 percent gravel and 20 percent cobbles; slightly acid (pH 6.5); abrupt wavy boundary.

Bt2—51 to 60 inches; dark brown (10YR 3/3) very cobbly sandy clay loam, brown (10YR 5/3) dry; massive; hard, firm, moderately sticky and moderately plastic; few very fine, fine and medium roots; few faint clay films on faces of peds; 30 percent gravel and 25 percent cobbles; slightly acid (pH 6.5).

The ochric epipedon is 4 to 7 inches thick. The particle-size control section averages 27 to 35 percent clay and 35 to 60 percent rock fragments. The reaction is neutral or slightly acid.

*A horizon:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 3 to 5 dry; and the chroma is 2 or 3 moist or dry. The content of rock fragments is 15 to 35 percent.

*E horizons:* The hue is 10YR or 7.5YR; the value is 3 to 5 moist, 5 to 7 dry; and the chroma is 2 or 3 moist or dry. The texture is very gravelly or very cobbly sandy loam. The content of rock fragments is 35 to 60 percent.

*Bt horizons:* The hue is 10YR or 7.5YR; the value is 3 to 5 moist, 5 to 7 dry; and the chroma is 2 to 4 moist or dry. The texture is very gravelly or very cobbly sandy clay loam.

## Duchesne Series

The Duchesne series consists of very deep, well drained, moderately permeable soils on mountain slopes and kame moraines. These soils formed in glacial till, slope alluvium, and colluvium derived from sandstone, quartzite, and shale. The slopes are 2 to 60 percent. The elevation ranges from 8,100 to 10,800 feet. The average annual precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are loamy-skeletal, mixed superactive Typic Glossocryalfs.

A typical pedon of Duchesne very cobbly sandy loam, 2 to 15 percent slopes; about  $\frac{2}{3}$  mile southwest of Fish Lake, about 650 feet west and 1,900 feet south of the northeast corner of sec. 2, T. 2 N., R. 11 E.

The surface has a 3-inch thick layer of undecomposed leaves, twigs, and needles.

A—0 to 4 inches; dark brown (7.5YR 3/2) very cobbly sandy loam, brown (7.5YR 5/3) dry; weak coarse subangular blocky structure parting to moderate, very fine and fine granular; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine, medium and coarse roots; common fine pores; 15 percent gravel, 15 percent cobbles, and 10 percent stones; strongly acid (pH 5.2); abrupt wavy boundary.

E—4 to 11 inches; brown (7.5YR 4/3) gravelly fine sandy loam, very pale brown (10YR 7/3) dry; moderate fine and distinct platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and very fine and few medium and coarse roots; many very fine and fine pores; 20 percent gravel and 10 percent cobbles; strongly acid (pH 5.2); abrupt smooth boundary.

E/Bt—11 to 18 inches; the E part (70 percent of the horizon) is brown (7.5Y 5/3) gravelly fine sandy loam, pink (7.5YR 7/3) dry; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; the Bt part (30 percent of the horizon) is brown (7.5YR 4/3) gravelly sandy clay loam, light brown (7.5YR 6/4) dry; moderate medium subangular blocky structure; very hard, firm moderately sticky and slightly plastic; few faint clay films on faces of peds. Both the E and Bt horizons have common fine and very fine and few medium roots; common very fine and fine pores; 20 percent gravel, 5 percent cobbles, and 5 percent stones; strongly acid (pH 5.2); clear irregular boundary.

Bt/E—18 to 30 inches; the Bt part (70 percent of the horizon) is strong brown (7.5YR 4/6) very cobbly sandy clay loam, light brown (7.5YR 6/4) dry; moderate medium subangular blocky structure; very hard, firm, moderately sticky and slightly plastic; few faint clay films on faces of peds; the E part (30 percent of the horizon) is brown (7.5YR 5/3) very cobbly fine sandy loam, pink (7.5YR 7/3) dry; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic. Both the Bt and E horizons have few very fine and fine roots; common very fine pores; 15 percent gravel and 20 percent cobbles; strongly acid (pH 5.4); clear wavy boundary.

Bt1—30 to 42 inches; strong brown (7.5YR 4/6) very cobbly sandy clay loam, strong brown (7.5YR 5/6) dry; parts of most ped surfaces are coated with brown (7.5YR 5/3) sand and silt; weak coarse subangular blocky structure; extremely hard, very

firm, moderately sticky and moderately plastic; few very fine and fine roots; many very fine pores; few faint clay films on faces of peds; 20 percent gravel and 30 percent cobbles; strongly acid (pH 5.4); abrupt wavy boundary.

Bt2—42 to 60 inches; yellowish red (5YR 4/6) very cobbly sandy clay loam, strong brown (7.5YR 5/6) dry; weak coarse subangular blocky structure; extremely hard, very firm, moderately sticky and moderately plastic; few fine and very fine roots; common very fine pores; few faint clay films on faces of peds; 20 percent gravel, 25 percent cobbles, and 10 percent stones; strongly acid (pH 5.4).

The particle-size control section averages 25 to 35 percent clay and 35 to 60 percent rock fragments.

*A horizon:* The hue is 7.5YR or 10YR; the value is 3 or 4 moist, 5 or 6 dry; and the chroma is 2 or 3 moist or dry.

*E horizons:* The hue is 10YR to 5YR; the value is 5 or 6 moist, 7 or 8 dry; and the chroma is 2 or 3 moist or dry. The reaction is moderately acid or strongly acid.

*Bt horizons:* The hue is 10YR to 5YR; the value is 3 to 5 moist 4 to 6 dry; and the chroma is 4 to 6 moist or dry.

## Dunford Series

The Dunford series consists of moderately deep, well drained, moderately slowly permeable soils on mountain slopes. These soils formed in slope alluvium and colluvium derived from andesite. The slopes are 15 to 60 percent. The elevation ranges from 5,800 to 8,000 feet. The average annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are fine-loamy, mixed, superactive, frigid Pachic Argixerolls.

A typical pedon of Dunford cobbly loam in an area of Dunford-Ayoub-Melling complex, 30 to 60 percent slopes; about 5 miles northwest of Kamas along Indian Hollow, about 1,700 feet east and 2,500 feet south of the northwest corner of sec. 10, T. 2 S., R. 5 E.

A—0 to 10 inches; very dark brown (10YR 2/2) cobbly loam, very dark grayish brown (10YR 3/2) dry; weak medium subangular blocky structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; many very fine and few fine and medium roots; 15 percent gravel and 15 percent cobbles; neutral (pH 6.8); clear smooth boundary.

Bt1—10 to 21 inches; very dark brown (10YR 2/2) gravelly clay loam, dark grayish brown (10YR 4/2)

dry; weak fine and medium subangular blocky structure; hard, firm, slightly sticky and moderately plastic; few very fine and fine roots; common very fine and few fine interstitial pores; few faint clay films on faces of peds; 25 percent gravel; neutral (pH 6.6); clear wavy boundary.

Bt2—21 to 36 inches; brown (7.5YR 4/2) gravelly clay loam, brown (10YR 5/3) dry; weak fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine roots; common very fine and few fine and medium interstitial pores; few faint clay films on faces of peds; 25 percent gravel and 5 percent cobbles; neutral (pH 6.6); gradual wavy boundary.

R—36 inches; fractured andesite.

Bedrock is at a depth of 20 to 40 inches. The mollic epipedon is 20 to 34 inches thick. The particle-size control section averages 27 to 35 percent clay and 15 to 35 percent rock fragments.

*A horizon:* The value is 2 or 3 moist, 3 to 5 dry. The content of rock fragments is 15 to 35 percent.

*Bt horizons:* The hue is 7.5YR or 10YR; the value is 2 to 5 moist, 3 to 6 dry; and the chroma is 2 or 3 moist or dry. The texture is gravelly clay loam or cobbly clay loam. The reaction is slightly acid or neutral.

## Echocreek Series

The Echocreek series consists of very deep, well drained, moderately slowly permeable soils on stream terraces. These soils formed in alluvium derived from sandstone, quartzite, and shale. The slopes are 2 to 10 percent. The elevation ranges from 5,200 to 8,000 feet. The average annual precipitation is 14 to 18 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are fine-loamy, mixed, superactive, frigid Cumulic Haploxerolls.

A typical pedon of Echocreek loam, in an area of Echocreek-Kovich loams, 0 to 10 percent slopes, about 1 mile southeast of Henefer, about 1,800 feet east and 300 feet north of the southwest corner of sec. 10, T. 3 N., R. 4 E.

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 4/2) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and few medium roots; many very fine tubular pores; neutral (pH 7.0); clear smooth boundary.

A1—7 to 18 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 4/3) dry; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many

very fine and few medium roots; many very fine tubular pores; neutral (pH 7.0); clear smooth boundary.

A2—18 to 26 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and few medium roots; many very fine tubular pores; slightly effervescent; carbonates are disseminated; slightly alkaline (pH 7.4); clear wavy boundary.

Bk1—26 to 38 inches; dark yellowish brown (10YR 3/4) loam, yellowish brown (10YR 5/4) dry; weak and moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine tubular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); clear smooth boundary.

Bk2—38 to 45 inches; brown (10YR 4/3) loam, brown (7.5YR 5/4) dry; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk3—45 to 60 inches; brown (7.5YR 4/4) loam, brown (7.5YR 5/4) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.2).

The mollic epipedon is 20 to 30 inches thick. The particle-size control section averages 18 to 27 percent clay and less than 10 percent rock fragments.

*A horizons:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 4 or 5 dry; and the chroma is 2 or 3 moist or dry. The reaction is neutral or slightly alkaline.

*Bk horizons:* The hue is 10YR or 7.5YR; the value is 3 or 4 moist, 5 or 6 dry; and the chroma is 2 to 4 moist or dry. The reaction is slightly alkaline or moderately alkaline.

## Fewkes Series

The Fewkes series consists of very deep, well drained, moderately slowly permeable soils on mountain slopes and fan remnants. These soils formed in slope alluvium and colluvium derived from sandstone, quartzite, and shale. The slopes are 2 to 60 percent. The elevation ranges from 5,400 to 8,300 feet. The average annual precipitation is 16 to 22

inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are fine-loamy, mixed, superactive, frigid Calcic Argixerolls.

A typical pedon of Fewkes gravelly loam in a area of Hades-Fewkes complex, 30 to 60 percent slopes; about 2 miles south of Wanship, about 200 feet east and 350 feet north of the southwest corner of sec. 29, T. 1 N., R. 5 E.

A—0 to 12 inches; very dark brown (10YR 2/2) gravelly loam, very dark grayish brown (10YR 3/2) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine, common fine and few medium roots; common very fine pores; 15 percent gravel and 5 percent cobbles; neutral (pH 7.0); clear smooth boundary.

Bt1—12 to 17 inches; dark grayish brown (10YR 4/2) clay loam, grayish brown (10YR 5/2) dry; weak fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and few fine roots; few very fine pores; few faint clay films on faces of peds; 10 percent gravel; neutral (pH 7.2); clear smooth boundary.

Bt2—17 to 22 inches; brown (10YR 4/3) clay loam, brown (10YR 5/3) dry; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine pores; few faint clay films on faces of peds; 5 percent gravel and 5 percent cobbles; slightly alkaline (pH 7.4); clear smooth boundary.

Btk1—22 to 28 inches; brown (10YR 5/3) clay loam, pale brown (10YR 6/3) dry; weak and moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine pores; few faint clay films on faces of peds; 10 percent gravel; very slightly effervescent; few carbonates as seams on faces of peds; moderately alkaline (pH 8.0); abrupt wavy boundary.

Btk2—28 to 40 inches; pale brown (10YR 6/3) clay loam, very pale brown (10YR 7/3) dry; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine pores; few faint clay films on faces of peds; 10 percent gravel; strongly effervescent; carbonates are disseminated and thinly veined; moderately alkaline (pH 8.2); clear smooth boundary.

Bk1—40 to 50 inches; pale brown (10YR 6/3) clay loam, very pale brown (10YR 7/3) dry; weak fine subangular blocky structure; hard, firm, moderately

sticky and moderately plastic; few very fine roots; few very fine pores; 10 percent gravel; strongly effervescent; carbonates are disseminated and veined on faces of peds; moderately alkaline (pH 8.4); clear wavy boundary.

Bk2—50 to 60 inches; pale brown (10YR 6/3) gravelly clay loam, very pale brown (10YR 8/2) dry; massive; hard, firm, moderately sticky and moderately plastic; 15 percent gravel; strongly effervescent; carbonates are segregated and veined on faces of peds; strongly alkaline (pH 8.5).

The mollic epipedon is 10 to 20 inches thick. The particle-size control section averages 27 to 35 percent clay and less than 15 percent rock fragments.

*A horizon:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 3 to 5 dry; and the chroma is 2 or 3 moist or dry. The content of rock fragments is 5 to 25 percent. The reaction is neutral or slightly alkaline.

*Bt horizons:* The hue is 10YR or 7.5YR; the value is 3 to 5 moist, 5 or 6 dry; and the chroma is 2 to 4 moist or dry. The reaction is neutral to slightly alkaline.

*Bk horizons:* The hue is 10YR or 7.5YR; the value is 5 to 7 moist, 6 to 8 dry; and the chroma is 2 to 4 moist or dry. The texture is gravelly clay loam, clay loam, loam, or gravelly loam. The content of rock fragments is 0 to 35 percent. The reaction is moderately alkaline or strongly alkaline.

## Hades Series

The Hades series consists of very deep, well drained, moderately slowly permeable soils on mountain slopes. These soils formed in slope alluvium and colluvium derived from sandstone, quartzite, and shale. The slopes are 15 to 60 percent. The elevation ranges from 5,400 to 8,300 feet. The average annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are fine-loamy, mixed, superactive, frigid Pachic Argixerolls.

A typical pedon of Hades loam in an area of Fewkes-Hades complex, 30 to 60 percent slopes; about 1 mile east of Rockport Reservoir, about 800 feet east and 200 feet south of the northwest corner of sec. 3, T. 1 S., R. 5 E.

A1—0 to 3 inches; very dark grayish brown (10YR 3/2) loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to weak coarse granular; soft, very friable, slightly sticky and slightly plastic; many very fine roots; neutral (pH 6.8); abrupt smooth boundary.

A2—3 to 18 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 4/3) dry; moderate fine

and medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine roots; few medium tubular pores; neutral (pH 7.0); gradual smooth boundary.

Bt1—18 to 33 inches; very dark grayish brown (10YR 3/2) clay loam, grayish brown (10YR 5/2) dry; moderate fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many fine and common medium roots; common very fine tubular pores; few faint clay films on faces of peds; 5 percent gravel; neutral (pH 7.0); clear smooth boundary.

Bt2—33 to 44 inches; very dark grayish brown (10YR 3/2) clay loam, brown (10YR 5/3) dry; moderate fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine roots; many very fine tubular pores; common faint clay films on faces of peds; 5 percent gravel; neutral (pH 7.2); clear smooth boundary.

Bt3—44 to 60 inches; dark grayish brown (10YR 4/2) clay loam, pale brown (10YR 6/3) dry; strong fine subangular blocky structure; hard, firm, very sticky and very plastic; few very fine roots; many fine and medium tubular pores; common faint clay films on faces of peds; 5 percent gravel; slightly alkaline (pH 7.4).

The mollic epipedon is 20 to 50 inches thick. The particle-size control section averages 27 to 35 percent clay and less than 15 percent rock fragments.

*A horizons:* The value is 2 or 3 moist, 3 to 5 dry; and the chroma is 2 or 3 moist or dry. The reaction is slightly acid or neutral.

*Bt horizons:* The hue is 10YR or 7.5YR; the value is 3 to 5 moist, 4 to 7 dry; and the chroma is 2 to 4 moist or dry. The reaction is neutral or slightly alkaline.

## Harter Series

The Harter series consists of very deep, well drained, slowly permeable soils on fan remnants and mountain slopes. These soils formed in slope alluvium and colluvium derived from sandstone, quartzite, and shale. The slopes are 2 to 30 percent. The elevation ranges from 5,800 to 7,900 feet. The average annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are fine, smectitic, frigid Typic Argixerolls.

A typical pedon of Harter gravelly loam in an area of Henifer-Harter complex, 15 to 30 percent slopes; about 6 miles east of Hoytsville and 1 mile north of



Spring Canyon, about 500 feet east and 800 feet north of the southwest corner of sec. 32, T. 2 N., R. 6 E.

A1—0 to 5 inches; very dark grayish brown (10YR 3/2) gravelly loam, dark brown (10YR 3/3) dry; weak thin platy and weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and few medium roots; common very fine and fine pores; 15 percent gravel; neutral (pH 6.6); clear smooth boundary.

A2—5 to 12 inches; very dark grayish brown (10YR 3/2) gravelly loam, dark grayish brown (10YR 4/2) dry; weak, fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; many very fine and fine pores; 15 percent gravel; neutral (pH 6.6); clear wavy boundary.

AB—12 to 19 inches; very dark grayish brown (10YR 3/2) gravelly loam, brown (10YR 5/3) dry; moderate fine and medium subangular blocky structure; hard, firm, moderately sticky and slightly plastic; common very fine and fine roots; common very fine pores; 15 percent gravel; neutral (pH 6.8); abrupt wavy boundary.

Bt1—19 to 24 inches; brown (7.5YR 4/2) gravelly clay loam, brown (7.5YR 5/4) dry; moderate fine and medium subangular blocky structure; extremely hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; common very fine and fine pores; few faint clay films on faces of peds; 20 percent gravel; neutral (pH 6.8); abrupt smooth boundary.

Bt2—24 to 33 inches; reddish brown (5YR 4/3) gravelly clay, reddish brown (5YR 5/3) dry; strong medium subangular blocky structure parting to moderate medium subangular blocky; extremely hard, very firm, moderately sticky and moderately plastic; common very fine and fine roots; common very fine and fine pores; many prominent clay films on faces of peds; 20 percent gravel; neutral (pH 6.8); abrupt wavy boundary.

Bt3—33 to 60 inches; reddish brown (5YR 4/4) gravelly clay, light reddish brown (5YR 6/4) dry; strong medium subangular blocky structure; extremely hard, very firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine and fine pores; many prominent clay films on faces of peds; 20 percent gravel; neutral (pH 6.8).

The mollic epipedon is 11 to 19 inches thick. The particle-size control section averages 35 to 50 percent clay and 15 to 35 percent rock fragments.

*A horizons:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 3 to 5 dry; and the chroma is 2 or 3 moist or dry. The content of rock fragments is 15 to 25 percent.

*Bt horizons:* The hue is 7.5YR to 2.5YR; the value is 3 to 5 moist, 4 to 7 dry; and the chroma is 2 to 4 moist or dry. The texture is gravelly clay loam or gravelly clay. The reaction is slightly acid or neutral.

## Haydenfork Series

The Haydenfork series consists of very deep, very poorly drained, moderately slowly permeable soils in kettles of glaciated mountains. These soils formed in glacial outwash derived from sandstone and quartzite. The slopes are 0 to 3 percent. The elevation ranges from 8,100 to 10,800 feet. The average annual precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are fine-loamy, mixed superactive Typic Cryaquolls.

A typical pedon of Haydenfork clay loam in an area of Sessions-Haydenfork complex, 0 to 15 percent slopes; about 1½ miles west of Moslander Reservoir, about 800 feet west and 2,800 feet south of the northeast corner of sec. 20, T. 3 N., R. 11 E.

Oi—0 to 3 inches; slightly decomposed leaf litter on the surface.

A1—3 to 9 inches; black (10YR 2/1) clay loam, very dark grayish brown (10YR 3/2) dry; weak coarse subangular blocky structure parting to moderate fine and medium granular; very hard, firm, moderately sticky and moderately plastic; many very fine and fine roots; few very fine pores; moderately acid (pH 6.0); clear smooth boundary.

A2—9 to 17 inches; black (10YR 2/1) clay loam, dark grayish brown (10YR 4/2) dry; moderate coarse prismatic structure parting to strong fine and medium subangular blocky; extremely hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; few very fine pores; moderately acid (pH 6.0); clear smooth boundary.

A3—17 to 21 inches; very dark grayish brown (10YR 3/2) clay loam, grayish brown (10YR 5/2) dry; many medium prominent strong brown (7.5YR 5/6) mottles; moderate coarse subangular blocky structure; extremely hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine pores; moderately acid (pH 6.0); abrupt smooth boundary.



Bg—21 to 25 inches; gray (5Y 5/1) clay loam, light gray (5Y 7/2) dry; common medium prominent strong brown (7.5YR 5/8) mottles; moderate coarse subangular blocky structure; extremely hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; common very fine and fine pores; slightly acid (pH 6.1); abrupt smooth boundary.

Cg—25 to 36 inches; brown (10YR 5/3) sandy clay loam, pale brown (10YR 6/3) dry; coarse prominent gray (5Y 5/1) mottles; massive; very hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine and fine pores; 10 percent gravel; moderately acid (pH 6.0); abrupt smooth boundary.

C1—36 to 55 inches; dark grayish brown (2.5Y 4/2) sandy clay loam, pale brown (10YR 6/3) dry; massive; very hard, friable, slightly sticky and slightly plastic; 10 percent gravel; moderately acid (pH 6.0); abrupt smooth boundary.

C2—55 to 63 inches; dark grayish brown (2.5Y 4/2) gravelly sandy clay loam; pale brown (10YR 6/3) dry; massive; very hard, friable, slightly sticky and slightly plastic; 15 percent gravel; moderately acid (pH 6.0).

The mollic epipedon is 10 to 20 inches thick. The particle-size control section averages 18 to 35 percent clay. The depth to a high water table is 0 to 20 inches. This soil is subject to occasional brief ponding in the spring.

*A horizons:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 3 to 5 dry; and the chroma is 1 or 2 moist or dry. The reaction is moderately acid to slightly acid.

*Bg and Cg horizons:* The hue is 5Y, 2.5Y or 10YR; the value is 4 or 5 moist, 6 or 7 dry; and the chroma is 1 to 3 moist, 2 or 3 dry. The texture is clay loam, sandy clay loam, or loam. The content of rock fragments is 0 to 15 percent. The reaction is moderately acid to slightly acid.

*C horizons:* The hue is 10YR or 2.5Y; the value is 4 or 5 moist, 5 or 6 dry; and the chroma is 2 or 3 moist or dry. The texture is sandy clay loam, loam, or gravelly sandy clay loam. The content of rock fragments is 5 to 35 percent. The reaction is moderately acid or slightly acid.

## Heiners Series

The Heiners series consists of shallow, well drained, moderately permeable soils on mountain slopes. These soils formed in colluvium, slope alluvium, and residuum derived from sandstone, conglomerate, and shale. The slopes are 4 to 70 percent. The elevation

ranges from 5,400 to 8,000 feet. The average annual precipitation is 14 to 16 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are loamy-skeletal, mixed, superactive, frigid, shallow Typic Haploxerepts.

A typical pedon of Heiners gravelly loam in an area of Richsum-Heiners complex, 4 to 15 percent slopes; about 10 miles east and 9 miles north of Echo, about 1,350 feet north and 250 feet west of the southeast corner of sec. 26, T. 5 N., R. 6 E.

A1—0 to 3 inches; dark reddish brown (5YR 3/4) gravelly loam, brown (7.5YR 4/4) dry; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; few fine vesicular pores; 20 percent gravel; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.4); abrupt wavy boundary.

A2—3 to 8 inches; reddish brown (5YR 4/4) gravelly loam, brown (7.5YR 5/4) dry; weak and moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine tubular pores; 20 percent gravel; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.4); clear smooth boundary.

Bw—8 to 12 inches; yellowish red (5YR 5/6) very gravelly loam, reddish yellowish (5YR 6/6) dry; moderate medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 35 percent sandstone gravel; strongly effervescent; carbonates are disseminated; strongly alkaline (pH 8.7); clear smooth boundary.

C—12 to 19 inches; yellowish red (5YR 5/6) very gravelly loam, reddish yellow (5YR 6/6) dry; massive; hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores; 55 percent sandstone gravel; strongly effervescent; carbonates are disseminated; strongly alkaline (pH 8.7); clear smooth boundary.

Cr—19 inches; weathered sandstone.

Weathered bedrock is at a depth of 10 to 20 inches. The particle-size control section averages 15 to 22 percent clay and 35 to 60 percent rock fragments.

*A horizons:* The hue is 7.5YR or 5YR; the value is 3 or 4 moist, 4 or 5 dry; and the chroma is 3 or 4 moist or dry. The content of rock fragments is 15 to 35 percent.

*Bw and C horizons:* The hue is 7.5YR or 5YR; the value is 4 or 5 moist, 5 to 6 dry; and the chroma is 4 or 6 moist or dry. The texture is very gravelly loam or very cobbly loam.

## Henefer Series

The Henefer series consists of very deep, well drained, slowly permeable soils on mountain slopes and fan remnants. These soils formed in slope alluvium and colluvium derived from quartzite, shale, and sandstone. The slopes are 3 to 60 percent. The elevation ranges from 5,600 to 8,400 feet. The average annual precipitation is 16 to 22 inches, and the mean air annual temperature is 40 to 45 degrees F.

These soils are fine, smectitic, frigid Pachic Argixerolls.

A typical pedon of Henefer gravelly loam in an area of Henefer-Harter gravelly loams, 15 to 30 percent slopes; about 7½ miles northwest of Park City, about 1,900 feet east and 1,200 feet north of the southwest corner of sec. 11, T. 1 S., R. 3 E.

A1—0 to 7 inches; very dark brown (10YR 2/2) gravelly loam, dark grayish brown (10YR 4/2) dry; moderate fine and medium subangular blocky structure parting to strong, fine and medium subangular blocky; hard, friable, slightly sticky and slightly plastic; common fine roots; many fine and medium pores; 15 percent gravel and 5 percent cobbles and stones; neutral (pH 6.8); clear smooth boundary.

A2—7 to 12 inches; very dark grayish brown (10YR 3/2) gravelly loam, brown (10YR 5/3) dry; moderate medium subangular blocky structure; very hard, friable, moderately sticky and slightly plastic; few fine roots; few fine and medium pores; 10 percent gravel and 5 percent cobbles, neutral (pH 6.8); clear smooth boundary.

Bt1—12 to 21 inches; dark reddish brown (5YR 3/3) cobbly clay, reddish brown (5YR 5/4) dry; moderate fine prismatic structure parting to strong fine and medium subangular blocky; extremely hard, firm, moderately sticky and very plastic; few very fine roots; few very fine pores; many distinct and few prominent clay films on faces of peds; 10 percent gravel and 10 percent cobbles; neutral (pH 6.9); clear smooth boundary.

Bt2—21 to 30 inches; reddish brown (5YR 4/4) cobbly clay, reddish brown (5YR 5/4) dry; moderate fine and medium subangular blocky structure; extremely hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine and fine pores; many distinct clay films on

faces of peds; 15 percent gravel and 15 percent cobbles; neutral (pH 7.0); clear smooth boundary.

Bt3—30 to 37 inches; reddish brown (5YR 4/4) very gravelly clay loam, light reddish brown (5YR 6/4) dry; moderate fine subangular blocky structure; extremely hard, friable, moderately sticky and moderately plastic; few very fine roots; few fine and medium pores; few distinct clay films on faces of peds; 35 percent gravel and 15 percent cobbles; neutral (pH 7.2); abrupt smooth boundary.

Bt4—37 to 43 inches; brown (7.5YR 4/4) very gravelly clay loam, light brown (7.5YR 6/4) dry; weak medium subangular blocky structure; very hard, friable, moderately sticky and moderately plastic; few very fine roots; few fine tubular pores; few faint clay films on faces of peds; 30 percent gravel and 10 percent cobbles; neutral (pH 7.3); abrupt smooth boundary.

Bt5—43 to 50 inches; reddish brown (5YR 4/4) very cobbly sandy clay loam, light reddish brown (5YR 6/4) dry; weak medium subangular blocky structure; very hard, friable, moderately sticky and moderately plastic; few faint clay films on faces of peds; 30 percent cobbles and 25 percent gravel; neutral (pH 7.3); abrupt smooth boundary.

BC—50 to 60 inches; reddish brown (5YR 4/4) very cobbly sandy clay loam, reddish brown (5YR 5/4) dry; massive; very hard, friable, slightly sticky, and slightly plastic; 25 percent gravel and 30 percent cobbles; neutral (pH 7.3).

The mollic epipedon is 20 to 30 inches thick. The particle-size control section averages 35 to 45 percent clay and 15 to 35 percent rock fragments.

*A horizons:* The value is 2 or 3 moist, 3 to 5 dry; and the chroma is 2 or 3 moist or dry.

*Bt horizons:* The hue is 7.5YR or 5YR; the value is 2 to 4 moist, 4 to 6 dry; and the chroma is 2 to 4 moist or dry. The texture is gravelly clay loam or cobbly clay over very gravelly clay loam or very cobbly sandy clay loam. The reaction is neutral or slightly alkaline.

*BC horizon:* The hue is 7.5YR or 5YR; the value is 3 to 6 moist, 4 to 7 dry; and the chroma is 2 to 4 moist or dry. The texture is very cobbly sandy clay loam, very cobbly clay loam, or very gravelly clay loam.

## Horrocks Series

The Horrocks series consists of deep, well drained, moderately slowly permeable soils on mountain slopes. These soils formed in slope alluvium and colluvium derived from conglomerate, andesite, sandstone, and quartzite. The slopes are 15 to 60 percent. The elevation ranges from 5,300 to 8,200 feet. The average

annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are loamy-skeletal, mixed, superactive, frigid Typic Argixerolls.

A typical pedon of Horrocks very cobbly loam in an area of Horrocks-Hades complex, 30 to 60 percent slopes; about 3 miles southwest of Wanship, about 900 feet south and 500 feet east of the northwest corner of sec. 36, T. 1 N., R. 4 E.

A—0 to 10 inches; very dark brown (10YR 2/2) very cobbly loam, very dark grayish brown (10YR 3/2) dry; weak fine granular structure; soft, friable, slightly sticky and slightly plastic; many very fine roots; 25 percent gravel and 20 percent cobbles; neutral (pH 7.0); clear smooth boundary.

Bt1—10 to 19 inches; very dark grayish brown (10YR 3/2) very cobbly clay loam, dark grayish brown (10YR 4/2) dry; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and few fine roots; few very fine pores; common faint clay films on faces of peds; 15 percent gravel and 25 percent cobbles; neutral (pH 7.0); clear smooth boundary.

Bt2—19 to 32 inches; brown (10YR 4/3) very cobbly clay loam, brown (10YR 5/3) dry; moderate fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and few fine roots; common very fine and few fine pores; common faint clay films on faces of peds; 25 percent gravel and 15 percent cobbles; neutral (pH 7.0); clear smooth boundary.

Bt3—32 to 40 inches; brown (10YR 4/3) very cobbly clay loam, brown (10YR 5/3) dry; weak fine subangular blocky structure; hard, firm, slightly sticky and moderately plastic; common very fine roots; few very fine pores; common faint clay films on faces of peds; 20 percent gravel and 20 percent cobbles; neutral (pH 7.0); clear smooth boundary.

BC—40 to 59 inches; brown (10YR 4/3) very gravelly loam, brown (10YR 5/3) dry; weak fine subangular blocky structure parting to weak fine granular; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine pores; 40 percent gravel; neutral (pH 7.2); clear smooth boundary.

R—59 inches; andesite.

Bedrock is at a depth of 40 to 60 inches. The mollic epipedon is 10 to 20 inches thick. The particle-size control section averages 27 to 35 percent clay and 35 to 60 percent rock fragments.

*A horizon:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 3 or 4 dry; and the chroma is 2 or 3 moist

or dry. The content of rock fragments is 25 to 45 percent. The reaction is slightly acid or neutral.

*Bt horizons:* The hue is 10YR to 5YR; the value is 3 or 4 moist, 3 to 5 dry; and the chroma is 2 to 6 moist or dry. The texture is very cobbly clay loam, very gravelly clay loam, or very cobbly sandy clay loam. The reaction is slightly acid or neutral.

*BC horizon:* The hue is 10YR to 5YR; the value is 3 or 4 moist, 4 to 6 dry; and the chroma is 3 to 6 moist or dry. The texture is very gravelly loam or very gravelly sandy clay loam. The content of rock fragments is 40 to 60 percent. The reaction is slightly acid or neutral.

## Hovarka Series

The Hovarka series consists of very deep, poorly drained, moderately over very rapidly permeable soils on flood plains. These soils formed in alluvium derived from sandstone and quartzite. The slopes are 0 to 2 percent. The elevation ranges from 7,800 to 9,400 feet. The average annual precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are fine-loamy over sandy or sandy skeletal, mixed, superactive, Cumulic Cryaquolls.

A typical pedon of Hovarka loam, 0 to 2 percent slopes in an area of Hovarka-Millcreek loams, 0 to 4 percent slopes; about 1 mile north of Burts-Miller Ranch; about 1,800 feet north and 300 feet east of the southwest corner of sec. 17, T. 3 N., R. 10 E.

Oi—0 to 4 inches; slightly decomposed leaves, twigs, and roots.

A1—4 to 12 inches very dark brown (10YR 2/2) loam, dark grayish brown (10YR 4/2) dry; common medium distinct strong brown (7.5YR 5/6) mottles; weak fine granular structure; friable, slightly hard, slightly sticky and slightly plastic, many very fine, common fine and few coarse roots; many very fine tubular pores; 5 percent gravel and 5 percent cobbles; slightly acid (pH 6.2); clear smooth boundary.

A2—12 to 32 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; many fine distinct brown (7.5YR 5/4) mottles; weak fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine and few fine roots; many very fine tubular pores; 5 percent gravel and 5 percent cobbles; slightly acid (pH 6.2); clear wavy boundary.

2C1—32 to 36 inches; gray (10YR 5/1) very cobbly loamy sand, gray (10YR 6/1) dry; single grain; loose; non-sticky and non-plastic; few very fine

roots; many very fine interstitial pores; 30 percent gravel and 20 percent cobbles; slightly acid (pH 6.4); clear wavy boundary.

2C2—36 to 64 inches; gray (10YR 5/1) very cobbly sand, gray (10YR 6/1) dry; single grain, loose, non-sticky and non-plastic; few very fine roots; many very fine interstitial pores; 30 percent gravel and 20 percent cobbles; neutral. (pH 6.6)

The mollic epipedon is 16 to 40 inches thick. The particle-size control section averages 18 to 27 percent clay and 0 to 15 percent rock fragments in the upper part of the horizon, and 0 to 10 percent clay and 35 to 60 percent rock fragments in the lower part. The depth to a high water table is 10 to 20 inches. This soil is subject to frequent brief flooding from March through May.

*A horizons:* The value is 2 or 3 moist, 3 or 4 dry; and the chroma is 1 or 2 moist or dry. The content of rock fragments is 0 to 15 percent. The reaction ranges from moderately acid to neutral.

*2C horizons:* The value is 4 or 5 moist, 6 or 7 dry; and the chroma is 1 or 2 moist or dry. The texture is stratified very gravelly to very cobbly loamy sand. The reaction ranges from moderately acid to neutral.

## Jana Series

The Jana series consists of shallow, well drained, moderately permeable soils on mountain slopes. These soils formed in colluvium derived from sandstone, conglomerate, and shale. The slopes are 30 to 70 percent. The elevation ranges from 5,600 to 7,400 feet. The average annual precipitation is 14 to 16 inches and the mean annual air temperature is 45 to 48 degrees F.

These soils are loamy-skeletal, mixed, superactive, mesic shallow Typic Haploxerepts.

A typical pedon of Jana very gravelly loam, in an area of Jana-Richsum-Rock outcrop, 30 to 70 percent slopes; about 1 mile northeast of Hoytsville: about 1,200 feet south and 400 feet west of the northeast corner of sec. 27, T. 2 N., R. 5 E.

The surface is covered by 40 percent gravel and 10 percent cobbles.

A1—0 inches to 1 inch; dark brown (7.5YR 3/3) very gravelly loam, brown (7.5YR 5/3) dry; weak fine granular structure; soft, friable, slightly sticky and slightly plastic; 30 percent gravel and 10 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

A2—1 inch to 6 inches; brown (7.5YR 4/3) very gravelly loam, light brown (7.5YR 6/3) dry; weak fine subangular blocky structure; slightly hard,

friable, slightly sticky and slightly plastic; 30 percent gravel and 10 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bw—6 to 12 inches; reddish brown (5YR 5/4) extremely cobbly loam, light reddish brown (5YR 6/4) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; 40 percent gravel and 20 percent cobbles; strongly effervescent; moderately alkaline (pH 8.4); abrupt irregular boundary.

Cr—12 inches; fractured moderately soft sandstone bedrock.

The particle-size control section is 15 to 22 percent clay and 35 to 60 percent rock fragments. Weathered bedrock is at a depth of 10 to 20 inches.

*A horizons:* The hue is 5YR, 7.5YR, or 10YR; the value is 3 or 4 moist, 4 through 6 dry; and the chroma is 2 or 3 moist, 3 or 4 dry.

*B horizon:* The hue is 5YR, 7.5YR, or 10YR; the value is 4 or 5 moist, 5 or 6 dry; and the chroma is 4 through 6 moist or dry. The texture is extremely cobbly loam, very gravelly loam, or very gravelly fine sandy loam. The thickness is 6 inches or more.

## Kovich Series

The Kovich series consists of very deep, poorly drained, moderately slowly permeable soils on flood plains and valley floors. These soils formed in alluvium derived from sandstone, quartzite, and shale. The slopes are 0 to 3 percent. The elevation ranges from 5,200 to 8,000 feet. The average annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are fine-loamy, mixed, superactive, frigid Cumulic Endoaquolls.

A typical pedon of Kovich loam, in an area of Wanship-Kovich loams, 0 to 3 percent slopes; about 1½ miles southeast of Kimball Junction, about 800 feet east and 500 feet north of the southwest corner of sec. 20, T. 1 S., R. 4 E.

A1—0 to 9 inches; black (10YR 2/1) loam, very dark gray (10YR 3/1) dry; weak fine granular structure; slightly hard, friable, slightly sticky and moderately plastic; many very fine and common fine roots; slightly acid (pH 6.2); clear smooth boundary.

A2—9 to 22 inches; black (10YR 2/1) clay loam, very dark grayish brown (10YR 3/2) dry; common medium strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many very fine and fine roots; few very fine tubular



pores; slightly acid (pH 6.4); clear smooth boundary.

- A3—22 to 29 inches; very dark brown (10YR 2/2) clay loam, dark brown (7.5YR 3/2) dry; common fine dark reddish brown distinct (5YR 3/4) mottles; moderate medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; neutral (pH 6.6); clear smooth boundary.
- 2C—29 to 44 inches; dark brown (7.5YR 4/4) fine sandy loam, brown (7.5YR 5/4) dry; common medium distinct strong brown (7.5YR 5/6) mottles; weak and moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 10 percent gravel; neutral (pH 7.0); clear smooth boundary.
- 3C—44 to 60 inches; brown (10YR 4/3) very gravelly loamy fine sand, brown (10YR 5/3) dry; single grained; loose, non-sticky and non-plastic; 45 percent gravel and 10 percent cobbles; slightly acid (pH 6.1).

The mollic epipedon is more than 24 inches thick. The particle-size control section averages 20 to 35 percent clay and less than 35 percent rock fragments. The depth to a high water table is 10 to 20 inches from March through May.

*A horizons:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 3 or 4 dry; and the chroma is 1 or 2 moist or dry. The texture is loam or clay loam. The reaction is slightly acid or neutral.

*C horizons:* The hue is 10YR or 7.5YR; the value is 2 to 4 moist, 4 to 6 dry; and the chroma is 2 to 4 moist or dry. The texture is stratified and includes fine sandy loam to very gravelly sandy clay loam in the upper part of the horizon, and very gravelly loamy fine sand, very gravelly sand, and very gravelly loamy sand in the lower part. The reaction is slightly acid or neutral.

## Lucky Star Series

The Lucky Star series consists of very deep, well drained, moderately permeable soils on mountain slopes. These soils formed in slope alluvium and colluvium derived from sandstone and conglomerate. The slopes are 5 to 70 percent. The elevation ranges from 5,600 to 10,800 feet. The average annual precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are loamy-skeletal, mixed superactive Typic Palecryolls.

A typical pedon of Lucky Star gravelly loam, 30 to 60 percent slopes, about 3½ miles southwest of Park City, off spur road along Guardsman Pass Road, about

2,100 feet north and 400 feet east of the southwest corner of sec. 28, T. 2 S., R. 4 E.

The surface has a 2-inch thick layer of undecomposed leaves, twigs, needles, and other plant residue.

- A1—0 to 6 inches; very dark brown (10YR 2/2) gravelly loam, brown (10YR 4/3) dry; moderate fine and medium granular structure; soft, very friable, slightly sticky and slightly plastic; many fine and medium and few coarse roots; many fine and medium pores; 20 percent gravel; neutral (pH 6.7); clear wavy boundary.
- A2—6 to 12 inches; very dark grayish brown (10YR 3/2) gravelly loam, brown (10YR 5/3) dry; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many fine and few medium and coarse roots; common fine and medium and few coarse pores; 25 percent gravel; neutral (pH 6.6); abrupt wavy boundary.
- E—12 to 25 inches; brown (7.5YR 4/4) very gravelly fine sandy loam, very pale brown (10YR 7/3) dry; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine, medium and coarse roots; many fine and medium pores; 35 percent gravel; neutral (pH 6.6); clear irregular boundary.
- E/Bt—25 to 47 inches; the E part (70 percent of the horizon) is strong brown (7.5YR 4/6) very cobbly sandy loam, very pale brown (10YR 7/3) dry; weak medium subangular block structure; slightly hard, very friable, slightly sticky and slightly plastic; the Bt part (30 percent of the horizon) is strong brown (7.5YR 4/6) very cobbly sandy clay loam, light yellowish brown (10YR 6/4) dry; moderate medium subangular blocky structure, hard, friable, moderately sticky and slightly plastic; few faint clay films on faces of peds; both the E and Bt parts have common fine and few coarse roots; many medium pores; 30 percent gravel and 15 percent cobbles; slightly acid (pH 6.5); clear irregular boundary.
- Bt/E—47 to 62 inches; the Bt part (60 percent of the horizon) is strong brown (7.5YR 4/6) very cobbly sandy clay loam, reddish yellow (7.5 YR 6/6) dry; strong fine and medium subangular blocky structure; extremely hard, firm, moderately sticky and moderately plastic; common prominent clay films on faces of peds; the E part (40 percent of the horizon) is strong brown (7.5YR 4/6) very cobbly sandy loam, very pale brown (10YR 7/4) dry; weak medium subangular blocky structure slightly hard very friable, slightly sticky and slightly plastic; both the Bt and E parts have few

fine roots; few fine pores; 20 percent gravel and 20 percent cobbles; slightly acid (pH 6.5); gradual irregular boundary.

Bt—62 to 80 inches; strong brown (7.5YR 4/6) very cobbly sandy clay loam, reddish yellow (7.5 YR 6/6) dry; strong fine and medium subangular blocky structure; extremely hard, firm, moderately sticky and moderately plastic; few fine roots; few fine pores; common prominent clay films on faces of peds; 20 percent gravel and 20 percent cobbles; slightly acid (pH 6.4).

The mollic epipedon is 10 to 20 inches thick. The particle-size control section averages 20 to 35 percent clay and 35 to 60 percent rock fragments.

*A horizons:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 3 to 5 dry; and the chroma is 2 or 3 moist or dry. The content of rock fragments is 15 to 35 percent. The reaction is slightly acid or neutral.

*E horizons:* The hue is 10YR or 7.5YR; the value is 4 to 6 moist, 5 to 7 dry; and the chroma is 3 to 6 moist or dry. The texture is very gravelly fine sandy loam, very cobbly fine sandy loam, or very cobbly sandy loam. The content of rock fragments is 35 to 60 percent. The reaction is slightly acid or neutral.

*Bt horizons:* The hue is 10YR to 5YR; the value is 3 to 5 moist, 5 to 7 dry; and the chroma is 3 to 6 moist or dry. The texture is very cobbly sandy clay loam or very gravelly sandy clay loam. The content of rock fragments is 35 to 60 percent. The reaction is slightly acid or neutral.

## Manila Series

The Manila series consists of very deep, well drained, slowly permeable soils on fan remnants. These soils formed in slope alluvium derived from conglomerate, sandstone and shale. The slopes are 2 to 15 percent. The elevation ranges from 5,400 to 7,900 feet. The average annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are fine, smectitic, frigid Typic Argixerolls.

A typical pedon of Manila loam in an area of Manila-Henefer complex, 5 to 15 percent slopes; about 4<sup>1</sup>/<sub>4</sub> miles northwest of Park City, about 200 feet west and 300 feet south of the northeast corner of sec. 36, T. 1 S., R. 3 E.

A1—0 to 4 inches; very dark grayish brown (10YR 3/2) loam, dark grayish brown (10YR 4/2) dry; weak fine subangular blocky structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; many very fine and common

fine roots; few very fine pores; 5 percent gravel; neutral (pH 6.6); clear smooth boundary.

A2—4 to 15 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 4/3) dry; moderate medium subangular blocky structure parting to weak fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine pores; 5 percent gravel; neutral (pH 6.6); clear smooth boundary.

Bt1—15 to 22 inches; brown (7.5YR 4/4) clay loam, light brown (7.5YR 6/4) dry; moderate fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many very fine and common fine roots; many very fine pores; few faint clay films on faces of peds; 5 percent gravel; neutral (pH 6.8); clear smooth boundary.

Bt2—22 to 40 inches; reddish brown (5YR 4/4) clay, light brown (7.5YR 6/4) dry; strong coarse subangular blocky structure parting to moderate medium subangular blocky; extremely hard, very firm, very sticky and very plastic; many very fine roots; many very fine and fine pores; common faint clay films on faces of peds; 5 percent gravel; neutral (pH 6.8); abrupt wavy boundary.

Bt3—40 to 46 inches; reddish brown (5YR 4/4) gravelly clay, light brown (7.5YR 6/4) dry; strong coarse subangular blocky structure parting to moderate medium subangular blocky; extremely hard, very firm, very sticky and very plastic; many very fine roots; many very fine and fine pores; many faint clay films on faces of peds; 15 percent gravel; neutral (pH 7.0); clear smooth boundary.

Bt4—46 to 60 inches; reddish brown (5YR 4/4) clay, light reddish brown (5YR 6/3) dry; moderate medium subangular blocky structure; extremely hard, very firm, moderately sticky and moderately plastic; few very fine roots; many very fine and fine pores; many faint clay films on faces of peds; 10 percent gravel; neutral (pH 7.0); clear smooth boundary.

The mollic epipedon is 10 to 20 inches thick. The particle-size control section averages 35 to 45 percent clay and less than 15 percent rock fragments.

*A horizons:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 4 or 5 dry; and the chroma is 2 or 3 moist or dry. The reaction is slightly acid or neutral.

*Bt horizons:* The hue is 5YR to 10YR; the value is 3 to 5 moist, 4 to 6 dry; and the chroma is 2 to 4 moist or dry. The texture is clay loam, clay, or gravelly clay loam. The content of rock fragments is less than 15 percent above 40 inches, and ranges from 5 to 35 percent below 40 inches.

## Melling Series

The Melling series consists of shallow, well drained, moderately slowly permeable soils on mountain slopes. These soils formed in residuum and colluvium derived from andesite. The slopes are 10 to 60 percent. The elevation ranges from 5,800 to 8,000 feet. The average annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are loamy-skeletal, mixed, superactive frigid Lithic Argixerolls.

A typical pedon of Melling extremely stony loam in an area of Melling-Ayoub-Rock outcrop complex, 10 to 30 percent slopes; about 4½ miles west of Kamas along Indian Hollow, about 300 feet east and 1,600 feet south of the northwest corner of sec. 14, T. 2 S., R. 5 E.

A—0 to 6 inches; very dark grayish brown (10YR 3/2) extremely stony loam, brown (10YR 4/3) dry; weak fine and medium granular structure; soft, friable, slightly sticky and slightly plastic; many very fine, common fine and few medium roots; few very fine vesicular pores; 10 percent gravel, 30 percent cobbles, and 25 percent stones; neutral (pH 7.0); clear smooth boundary.

Bt—6 to 19 inches; dark brown (10YR 3/3) very cobbly clay loam, brown (10YR 4/3) dry; weak fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine, few fine and medium roots; common very fine and few fine tubular pores; few faint clay films on faces of peds; 10 percent gravel and 40 percent cobbles; neutral (pH 7.0); abrupt smooth boundary.

R—19 inches; andesite bedrock.

Bedrock is at a depth of 12 to 20 inches. The mollic epipedon is 12 to 19 inches thick. The particle-size control section averages 27 to 35 percent clay and 35 to 60 percent rock fragments.

*A horizon:* The value is 2 or 3 moist, and the chroma is 2 or 3 moist or dry.

*Bt horizon:* The value is 2 or 3 moist, 3 to 5 dry; and the chroma is 2 or 3 moist, 3 or 4 dry. The texture is very cobbly clay loam or very gravelly clay loam.

## Millcreek Series

The Millcreek series consists of very deep, moderately well drained, moderately over rapidly permeable soils on stream terraces. These soils formed in alluvium derived from sandstone and quartzite. The slopes are 0 to 4 percent. The elevation ranges from 7,800 to 9,400 feet. The average annual

precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are fine loamy over sandy or sandy skeletal, mixed, superactive Cumulic Haplocryolls.

A typical pedon of Millcreek loam, in an area of Hovarka-Millcreek loams, 0 to 4 percent slopes; about 5½ miles north and 1 mile west of Bear River Ranger Station; located about 2,500 feet north and 1,800 feet west of the southeast corner of sec. 30, T 3N., R. 10 E.

A1—0 to 14 inches; very dark brown (7.5YR 2/2) loam, brown (7.5YR 4/2) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 10 percent gravel; slightly acid (pH 6.4); clear smooth boundary.

A2—14 to 24 inches; dark brown (7.5YR 3/2) loam, brown (7.5YR 5/2) dry; weak fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine roots; many very fine tubular pores; 5 percent gravel and 5 percent cobbles; neutral (pH 6.6); clear wavy boundary.

2C—24 to 60 inches; brown (7.5YR 4/2) very cobbly sand, pinkish gray (7.5YR 6/2) dry; single grain; loose; non-sticky and non-plastic; common very fine roots; many very fine interstitial pores; 30 percent gravel and 20 percent cobbles; neutral (pH 6.8); clear wavy boundary.

The mollic epipedon is 16 to 40 inches thick. The particle-size control section averages 18 to 27 percent clay in the upper part of the horizon, and less than 15 percent in the lower part. The depth to a high water table is 40 to 60 inches. This soil is subject to rare brief flooding from March through May.

*A horizons:* The value is 2 or 3 moist and 4 or 5 dry; and the chroma is 2 or 3 moist or dry. The content of rock fragments is 0 to 15 percent.

*2C horizon:* The value is 4 or 5 moist, 6 or 7 dry; and the chroma is 2 to 4 moist or dry. The texture is very gravelly loamy sand or very cobbly sand.

## Parkcity Series

The Parkcity series consists of very deep, well drained, moderately permeable soils on mountain slopes. These soils formed in colluvium and slope alluvium derived from sandstone, limestone, and quartzite. The slopes are 15 to 60 percent. The elevation ranges from 5,600 to 9,800 feet. The average annual precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are loamy-skeletal, mixed superactive Pachic Haplocryolls.

A typical pedon of Parkcity gravelly loam, 30 to 60 percent slopes in an area of Parkcity-Dromedary gravelly loams, 30 to 70 percent slopes; about 1 mile west of Park City, about 2,580 feet south and 800 feet east of the northwest corner of sec. 17, T. 2 S., R. 4 E.

A1—0 to 5 inches; very dark brown (10YR 2/2) gravelly loam, very dark grayish brown (10YR 3/2) dry; moderate medium granular structure parting to weak fine granular; slightly hard, friable, slightly sticky and slightly plastic; many very fine, fine and common medium roots; few very fine pores; 20 percent gravel; slightly acid (pH 6.1); clear smooth boundary.

A2—5 to 19 inches; very dark brown (10YR 2/2) gravelly loam, very dark grayish brown (10YR 3/2) dry; moderate medium subangular blocky structure parting to weak fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; many very fine pores; 20 percent gravel and 10 percent cobbles; slightly acid (pH 6.2); clear smooth boundary.

Bw—19 to 36 inches; dark brown (10YR 3/3) very cobbly loam, brown (10YR 4/3) dry; weak and moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and few medium roots; many very fine pores; 15 percent gravel, 30 percent cobbles, and 10 percent stones; slightly acid (pH 6.4); clear wavy boundary.

C—36 to 60 inches; brown (10YR 4/3) very cobbly loam, yellowish brown (10YR 5/4) dry; massive; slightly hard, friable, slightly sticky and nonplastic; common very fine and few fine roots; few very fine pores; 20 percent gravel, 25 percent cobbles, and 10 percent stones; slightly acid (pH 6.5).

The mollic epipedon is 16 inches or more thick. The particle-size control section averages 12 to 18 percent clay and 35 to 60 percent rock fragments.

*A horizons:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 3 or 4 dry; and the chroma is 2 or 3 moist or dry. The content of rock fragments is 15 to 35 percent. The reaction is slightly acid or neutral.

*B horizon:* The hue is 10YR or 7.5YR; the value is 3 or 4 moist, 4 or 5 dry; and the chroma is 3 or 4 moist or dry. The content of rock fragments is 35 to 60 percent. The texture is very cobbly loam. The reaction is slightly acid or neutral.

*C horizon:* The hue is 10YR or 7.5YR; the value is 3 to 5 moist, 4 to 7 dry; and the chroma is 3 or 4 moist or dry. The reaction is slightly acid or neutral. The

content of rock fragments is 35 to 60 percent. The texture is very cobbly loam or very cobbly sandy loam.

## Richsum Series

The Richsum series consists of deep, well drained, moderately permeable soils on mountain slopes. These soils formed in slope alluvium and colluvium derived from shale, sandstone, and conglomerate. The slopes range from 4 to 60 percent. The elevation ranges from 5,600 to 7,400 feet. The average annual precipitation is 14 to 16 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are fine-loamy, mixed, superactive, frigid Typic Calcixerepts.

A typical pedon of Richsum silt loam in an area of Richsum-Heiners complex, 4 to 15 percent slopes; about 16 miles northeast of Echo, about 2,200 feet west and 2,000 feet north of the southeast corner of sec. 27, T. 5 N., R. 7 E.

A1—0 to 2 inches; dark brown (7.5YR 3/3) silt loam, brown (7.5YR 5/4) dry; weak medium platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine and few medium roots; many very fine vesicular pores; 10 percent gravel; neutral (pH 7.2); abrupt smooth boundary.

A2—2 to 14 inches; dark brown (7.5YR 3/4) silt loam, brown (7.5YR 5/4) dry; weak coarse subangular blocky structure parting to moderate coarse granular; hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common fine and few medium and coarse pores; 10 percent gravel; strongly effervescent; carbonates are disseminated; slightly alkaline (pH 7.7); clear smooth boundary.

Bk1—14 to 23 inches; reddish brown (5YR 4/4) silt loam, light reddish brown (5YR 6/4) dry; weak coarse subangular blocky structure parting to strong medium subangular blocky; very hard, firm, moderately sticky and moderately plastic; few very fine, fine and medium roots; few very fine and fine pores; 5 percent gravel and 5 percent cobbles; strongly effervescent; carbonates are disseminated and flaky; moderately alkaline (pH 7.9); clear wavy boundary.

Bk2—23 to 32 inches; reddish brown (5YR 4/4) silt loam, light reddish brown (5YR 6/4) dry; weak coarse subangular blocky structure parting to strong medium subangular blocky; hard, friable, slightly sticky and slightly plastic, few very fine, fine and medium roots; few very fine and fine pores; 5 percent gravel and 5 percent cobbles;



strongly effervescent; carbonates are disseminated and veined; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk3—32 to 52 inches; reddish brown (5YR 4/4) gravelly silt loam, light reddish brown (5YR 6/4) dry; massive; slightly hard, friable, moderately sticky and slightly plastic; few very fine roots; 15 percent gravel; strongly effervescent; carbonates are disseminated; moderately alkaline (pH 8.2); clear wavy boundary.

Cr—52 inches; weathered shale and sandstone.

Weathered bedrock is at a depth of 40 to 60 inches. The particle-size control section averages 18 to 27 percent clay and less than 15 percent rock fragments. The reaction ranges from neutral to strongly alkaline.

*A horizons:* The hue is 5YR to 10YR; the value is 3 or 4 moist, 4 or 5 dry; and the chroma is 3 or 4 moist or dry. The content of rock fragments is 0 to 15 percent.

*Bk horizons:* The hue is 2.5YR to 7.5YR; the value is 4 to 6 moist, 5 to 7 dry; and the chroma is 4 to 6 moist or dry. The texture is silt loam, loam, or gravelly silt loam.

## Sessions Series

The Sessions series consists of very deep, well drained, slowly permeable soils on ground moraines and till plains. These soils formed in glacial till derived from shale, quartzite, and sandstone. The slopes are 2 to 15 percent. The elevation ranges from 7,800 to 10,600 feet. The average annual precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are fine, smectitic Xeric Argicryolls.

A typical pedon of Sessions loam in an area of Sessions-Skutum loams, 2 to 15 percent slopes; about 1½ miles southwest of Grassy Lakes, about 1,400 feet east and 1,900 feet south of the northwest corner of sec. 2, T. 2 N., R. 9 E.

A1—0 to 8 inches; very dark grayish brown (10YR 3/2) loam, brown (10YR 4/3) dry; moderate very fine and fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine vesicular pores; 5 percent gravel; neutral (pH 7.2); clear smooth boundary.

A2—8 to 15 inches; very dark grayish brown (10YR 3/2) clay loam, brown (10YR 4/3) dry; moderate medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; common very fine and fine roots; few very fine tubular pores;

5 percent gravel; neutral (pH 7.2); clear smooth boundary.

Bt1—15 to 48 inches; brown (7.5YR 4/4) clay, brown (7.5YR 5/4) dry; moderate medium subangular blocky structure; very hard, very firm, moderately sticky and moderately plastic; few very fine and fine roots; common very fine tubular pores; common distinct thick clay films on faces of peds; 10 percent gravel; slightly alkaline (pH 7.6); clear wavy boundary.

Bt2—48 to 52 inches; brown (7.5YR 4/4) gravelly clay loam, brown (7.5YR 5/4) dry; weak fine subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few very fine tubular pores; common faint clay films on faces of peds; 20 percent gravel; slightly alkaline (pH 7.6); clear smooth boundary.

Btk—52 to 60 inches; brown (7.5YR 5/4) gravelly clay loam, light brown (7.5YR 6/4) dry; massive; hard, firm, slightly sticky and slightly plastic; few faint clay films on faces of peds; 25 percent gravel; strongly effervescent; carbonates are in filaments; slightly alkaline (pH 7.8).

The mollic epipedon is 12 to 15 inches thick. The particle-size control section averages 35 to 45 percent clay and 5 to 20 percent rock fragments.

*A horizons:* The value is 2 or 3 moist, 3 or 4 dry; and the chroma is 2 or 3 moist or dry. The content of rock fragments is 0 to 15 percent. The reaction is slightly acid or neutral.

*Bt horizons:* The hue is 7.5YR or 5YR; the value is 3 to 5 moist, 4 to 6 dry; and the chroma is 3 or 4 moist or dry. The texture is clay loam, gravelly clay loam, or clay. The reaction is neutral or slightly alkaline.

*Btk horizon:* The hue is 7.5YR or 5YR; the value is 4 or 5 moist, 5 or 6 dry; and the chroma is 3 or 4 moist or dry. The texture is clay loam, gravelly clay loam, or clay. The reaction is slightly alkaline or moderately alkaline. The calcium carbonate equivalent is 10 to 30 percent.

## Skutum Series

The Skutum series consists of deep, well drained, slowly permeable soils on mountain slopes. These soils formed in slope alluvium and colluvium derived from sandstone, conglomerate, and claystone. The slopes are 2 to 60 percent. The elevation ranges from 6,400 to 10,100 feet. The average annual precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are fine, smectitic Pachic Argicryolls.

A typical pedon of Skutum loam, 2 to 15 percent slopes; about 3½ miles southeast of Aagard Ranch, about 2,100 feet south and 1,200 feet east of the northwest corner of sec. 10, T. 2 N., R. 8 E.

A1—0 to 5 inches; dark brown (7.5YR 3/2) loam, brown (7.5YR 4/2) dry; strong fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine and medium roots; few very fine vesicular pores; 5 percent gravel; neutral (pH 6.6); clear smooth boundary.

A2—5 to 17 inches; dark brown (7.5YR 3/2) loam, brown (7.5YR 4/2) dry; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine, common medium and coarse roots; few very fine interstitial pores; 10 percent gravel; neutral (pH 6.8); clear smooth boundary.

Bt1—17 to 32 inches; reddish brown (5YR 4/4) gravelly clay, reddish brown (5YR 5/4) dry; strong medium prismatic structure parting to strong medium angular blocky; extremely hard, extremely firm, very sticky and very plastic; few very fine, fine and medium roots; common very fine and few fine tubular pores; many distinct clay films on faces of peds; 15 percent gravel; organic coatings on some peds; neutral (pH 7.0); abrupt smooth boundary.

Bt2—32 to 44 inches; reddish brown (5YR 4/4) gravelly clay, reddish brown (5YR 5/4) dry; strong medium prismatic structure parting to strong medium subangular blocky; extremely hard, extremely firm, very sticky and very plastic; few very fine and fine roots; many very fine tubular pores; many distinct clay films on faces of peds; 10 percent gravel and 5 percent cobbles; neutral (pH 7.2); clear smooth boundary.

Bt3—44 to 48 inches; brown (7.5YR 4/4) gravelly clay, brown (7.5YR 5/4) dry; moderate medium prismatic structure parting to moderate medium subangular blocky; extremely hard, extremely firm, very sticky and very plastic; few very fine and fine roots; many very fine tubular pores; common distinct clay films on faces of peds; 15 percent gravel and 5 percent cobbles; neutral (pH 7.3); clear smooth boundary.

2C—48 to 56 inches; reddish brown (2.5YR 4/4) gravelly sandy loam, reddish brown (5YR 5/3) dry; massive; very hard, firm, moderately sticky and slightly plastic; few very fine roots; common very fine tubular pores; 25 percent gravel and 5 percent cobbles; neutral (pH 7.3).

Cr—56 inches; weathering sandstone.

The mollic epipedon is 17 to 27 inches thick. The particle-size control section averages 35 to 45 percent clay and 15 to 35 percent rock fragments.

*A horizons:* The hue is 10YR to 5YR; the value is 2 or 3 moist, 3 to 5 dry; and the chroma is 2 or 3 moist or dry. The content of rock fragments is less than 15 percent.

*Bt horizons:* The hue is 5YR or 7.5YR; the value is 3 to 5 moist, 4 to 6 dry; and the chroma is 3 to 5 moist or dry. The texture is gravelly clay loam or gravelly clay.

*2C horizon:* The hue is 7.5YR to 2.5YR; the value is 3 to 5 moist, 4 to 6 dry; and the chroma is 3 to 5 moist or dry. The texture is gravelly sandy loam or gravelly sandy clay loam. The content of rock fragments is 15 to 35 percent.

*Cr horizon:* Weathering sedimentary bedrock at a depth of 40 to 60 inches.

## Snyderville Series

The Snyderville series consists of very deep, well drained, moderately permeable soils on stream terraces and outwash terraces. These soils formed in alluvium and glacial outwash derived from sandstone, conglomerate, and quartzite rocks. The slopes are 1 to 10 percent. The elevation ranges from 5,300 to 8,400 feet. The average annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are loamy-skeletal, mixed, superactive, frigid Pachic Argixerolls.

A typical pedon of Snyderville gravelly loam, 1 to 5 percent slopes; about 2½ miles southeast of Woodland, about 100 feet east and 2,000 feet north of the southwest corner of sec. 17, T. 3 S., R. 7 E.

A1—0 to 10 inches; very dark brown (10YR 2/2) gravelly loam, dark grayish brown (10YR 4/2) dry; weak fine granular texture; slightly hard, friable, slightly sticky and slightly plastic; many very fine, few fine, and medium roots; many very fine tubular pores; 15 percent gravel and 5 percent cobbles; neutral (pH 6.8); clear smooth boundary.

A2—10 to 16 inches; very dark grayish brown (10YR 3/2) gravelly loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine, few fine and medium roots; many fine tubular pores; 15 percent gravel and 5 percent cobbles; neutral (pH 6.8); clear smooth boundary.

Bt—16 to 28 inches; dark brown (7.5YR 3/3) very gravelly sandy clay loam, brown (7.5YR 5/3) dry;

moderately fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine, few fine and medium roots; many very fine tubular pores; many faint clay films on faces of peds; 30 percent gravel and 10 percent cobbles; neutral (pH 7.0); clear smooth boundary.

2C—28 to 35 inches; brown (7.5YR 4/3) very cobbly loamy sand, light brown (7.5YR 6/3) dry; weak, fine subangular blocky structure; soft, very friable, non-sticky and non-plastic; common very fine and few fine roots; many very fine irregular pores; 35 percent gravel, 15 percent cobbles, and 5 percent stones; neutral (pH 7.2); clear wavy boundary.

3C—35 to 60 inches; brown (7.5YR 4/3) extremely cobbly sand, brown (7.5YR 6/3) dry; single grain; loose; few very fine roots; many very fine interstitial pores; 45 percent gravel, 20 percent cobbles, and 5 percent stones; neutral (pH 7.2).

The mollic epipedon is 20 to 36 inches thick. The particle-size control section averages 22 to 27 percent clay and 35 to 60 percent rock fragments.

*A horizons:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 4 or 5 dry; and the chroma is 2 or 3 moist or dry. The content of rock fragments is 15 to 35 percent. The texture is gravelly loam or cobbly loam.

*Bt horizon:* The hue is 10YR or 7.5YR; the value is 3 or 4 moist, 5 or 6 dry; and the chroma is 3 or 4 moist or dry. The texture is very gravelly sandy clay loam or very cobbly loam.

*C horizons:* The hue is 10YR or 7.5YR; the value is 4 or 5 moist, 6 or 7 dry; and the chroma is 3 or 4 moist or dry. The texture is very cobbly loamy sand, very gravelly loamy sand, extremely cobbly sand, or extremely gravelly sand. The content of rock fragments is 35 to 75 percent.

## Starley Family

The Starley family consists of shallow and well drained, moderately permeable soils on mountain slopes. These soils formed in colluvium and residuum derived from mixed sedimentary rocks, mainly limestone, sandstone, and conglomerate. The slopes are 5 to 70 percent. The elevation ranges from 6,000 to 11,200 feet. The average annual precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are loamy-skeletal, mixed, superactive Lithic Haplocryolls.

A reference profile of Starley family very cobbly loam in an area of Rock outcrop-Starley family complex, 30 to 70 percent slopes; about 1/4 mile

northwest of Alta Ski Resort, 200 feet west of the southeast corner of section 31, T. 2 S., R. 3 E.

A1—0 to 6 inches; very dark grayish brown (10YR 3/2) very cobbly loam, brown (10YR 4/3) dry; moderately fine and very fine granular structure; soft, very friable, non-sticky and non-plastic; many very fine and few medium roots; 25 percent angular cobbles and 30 percent angular gravel; moderately alkaline (pH 7.9); clear smooth boundary.

A2—6 to 15 inches; dark brown (10YR 3/3) extremely cobbly loam, brown (10YR 5/3) dry; weak medium subangular blocky structure; slightly hard, very friable, non-sticky and non-plastic; many very fine and fine and few medium roots; 30 percent angular cobbles and 30 percent angular gravel; moderately alkaline (pH 7.9); clear irregular boundary.

Bk—15 to 19 inches; dark brown (10YR 3/3) extremely cobbly loam, yellowish brown (10YR 5/4) dry; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and non-plastic; many very fine and fine roots; 35 percent angular cobbles and 35 percent angular gravel; slightly effervescent, lime is disseminated; moderately alkaline (pH 8.0); abrupt irregular boundary.

R—19 inches: Fractured limestone.

The mollic epipedon is 10 to 20 inches thick. The particle-size control section averages 18 to 27 percent clay and 35 to 70 percent rock fragments. Bedrock is at a depth of 10 to 20 inches.

*A horizons:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 4 or 5 dry; and the chroma is 2 or 3. The reaction ranges from neutral to moderately alkaline.

*Bk horizon:* The hue is 10YR or 7.5YR; the value is 3 or 4 moist, 5 or 6 dry; and the chroma is 3 or 4. The texture is extremely cobbly loam or gravelly loam. The reaction ranges from neutral to moderately alkaline.

## Toddspan Series

The Toddspan series consists of very deep, poorly drained, moderately slowly permeable soils on flood plains and valley floors. These soils formed in alluvium derived from sandstone, quartzite, and shale. The slopes are 0 to 3 percent. The elevation ranges from 6,000 to 6,600 feet. The average annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are loamy-skeletal, mixed, superactive, frigid Fluvaquentic Endoaquolls.

A typical pedon of Toddspace loam, 0 to 3 percent slopes; about 1/2 mile west of Kamas, about 1,300 feet west and 300 feet south of the northeast corner of sec. 20, T. 2 S., R. 6 E.

- A1—0 to 4 inches; very dark brown (10YR 2/2) loam, dark grayish brown (10YR 4/2) dry; weak fine granular structure, slightly hard, very friable, non-sticky and non-plastic; many very fine and common fine roots; many very fine and common fine tubular pores; neutral (pH 7.2); clear wavy boundary.
- A2—4 to 14 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; common fine faint dark yellowish brown (10YR 4/4) mottles; moderate, medium subangular blocky structure; slightly sticky and slightly plastic; many very fine and common fine roots; many fine and common fine tubular pores; neutral (pH 7.2); gradual wavy boundary.
- A3—14 to 19 inches; very dark gray (10YR 3/1) loam, gray (10YR 5/1) dry; many fine distinct yellowish red (5YR 5/6) mottles; moderate, medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine and common fine tubular pores; 10 percent gravel; neutral (pH 7.2); clear wavy boundary.
- 2Bg1—19 to 24 inches; brown (7.5YR 4/2) very cobbly clay loam, pinkish gray (7.5YR 6/2) dry; many fine prominent yellowish red (5YR 4/6) mottles; moderate fine subangular blocky structure; very hard, friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine and common fine tubular pores; 30 percent gravel and 20 percent cobbles; slightly alkaline (pH 7.4); clear wavy boundary.
- 2Bg2—24 to 32 inches; gray (2.5Y 5/1) very cobbly clay loam, light gray (2.5Y 7/1) dry; many medium prominent greenish gray (5GY 4/1) mottles; moderate fine subangular blocky structure; very hard, friable, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; 30 percent gravel and 20 percent cobbles; slightly alkaline (pH 7.4); clear wavy boundary.
- 2C1—32 to 37 inches; dark grayish brown (10YR 4/2) extremely cobbly sandy clay loam, light brownish gray (10YR 6/2) dry; common coarse prominent gray (N 5/0) mottles; massive; hard, friable, slightly sticky and non-plastic; common very fine roots; common very fine tubular pores; 40 percent gravel and 30 percent cobbles; slightly alkaline (pH 7.4); gradual wavy boundary.
- 2C2—37 to 44 inches; dark grayish brown (10YR 4/2) extremely gravelly sandy clay loam, light brownish

gray (10YR 6/2) dry; massive; hard, friable, slightly sticky and non-plastic; 50 percent fine gravel and 20 percent cobbles; slightly alkaline (pH 7.4); clear wavy boundary.

- 3C—44 to 60 inches; dark grayish brown (10YR 4/2) extremely gravelly loamy sand, light brownish gray (10YR 6/2) dry; massive; soft, very friable, non-sticky and non-plastic; 50 percent gravel and 20 percent cobbles; slightly alkaline (pH 7.4).

The particle-size control section averages 18 to 35 percent clay and 35 to 60 percent rock fragments. The depth to a high water table is 10 to 20 inches. This soil is subject to rare and occasional flooding for brief periods of time from March through May.

*A horizons:* The value is 2 or 3 moist, 4 or 5 dry; and the chroma is 1 or 2 moist or dry. The content of rock fragments is 0 to 15 percent.

*2Bg horizons:* The value is 3 to 5 moist, 5 to 7 dry; and the chroma is 1 to 3 moist or dry. The texture is very cobbly clay loam or very cobbly loam. The content of rock fragments is 35 to 60 percent.

*C horizons:* The value is 3 to 5 moist, 5 to 7 dry; and the chroma is 1 to 3 moist or dry. The texture is extremely cobbly sandy clay loam, extremely gravelly sandy clay loam, or very gravelly loam over extremely gravelly loamy sand or very cobbly sand. The content of rock fragments is 35 to 75 percent.

## Uinta Series

The Uinta series consists of very deep, well drained, moderately slowly permeable soils on till plains and mountain slopes. These soils formed in slope alluvium, colluvium, and glacial till derived from quartzite, sandstone, and shale. The slopes are 8 to 60 percent. The elevation ranges from 7,000 to 10,600 feet. The average annual precipitation is 22 to 35 inches, and the mean annual air temperature is 35 to 40 degrees F.

These soils are fine-loamy, mixed superactive Eutric Glossocryalfs.

A typical pedon of Uinta cobbly sandy loam in an area of Uinta-Duchesne complex, 8 to 30 percent slopes; about 1 1/2 miles southwest of Mill Creek Guard Station, about 1,000 feet east and 800 feet north of the southwest corner of sec. 18, T. 2 N., R. 11 E.

The surface has a 2-inch thick layer of undecomposed leaves, twigs, and needles.

- E—0 to 13 inches; brown (7.5YR 4/2) cobbly sandy loam, very pale brown (10YR 7/3) dry; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; many very fine, fine and medium roots; many very fine



and fine tubular pores; 10 percent gravel, 15 percent cobbles, and 5 percent stones; slightly acid (pH 6.2); clear wavy boundary.

E/Bt—13 to 23 inches; the E part (75 percent of the horizon) is brown (7.5YR 5/2) gravelly sandy loam, pink (5YR 7/3) dry; weak medium and coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; the Bt part (25 percent of the horizon) is reddish brown (5YR 4/4) gravelly sandy clay loam, reddish brown (5YR 5/4) dry; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few faint clay films on faces of peds. Both the E and Bt horizons have few very fine, fine and medium roots; many very fine and fine tubular pores; 15 percent gravel; slightly acid (pH 6.2); abrupt wavy boundary.

Bt1—23 to 35 inches; yellowish red (5YR 4/6) gravelly sandy clay loam, yellowish red (5YR 5/6) dry; strong medium and coarse prismatic structure parting to strong medium and coarse subangular blocky; extremely hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; common very fine and fine tubular pores; few faint clay films on faces of peds; 10 percent gravel and 5 percent cobbles; slightly acid (pH 6.2); abrupt smooth boundary.

Bt2—35 to 50 inches; yellowish red (5YR 4/6) gravelly clay loam, light reddish brown (5YR 6/4) dry; moderate coarse subangular blocky structure; extremely hard, very firm, moderately sticky and moderately plastic; few very fine and fine roots; common very fine tubular pores; few faint clay films on faces of peds; 10 percent gravel and 5 percent cobbles; slightly acid (pH 6.2); abrupt smooth boundary.

Bt3—50 to 60 inches; yellowish red (5YR 4/6) gravelly clay loam, yellowish red (5YR 5/6) dry; moderate coarse subangular blocky structure; extremely hard, very firm, moderately sticky and moderately plastic; few very fine roots; common very fine and fine tubular pores; common faint clay films on faces of peds; 15 percent gravel; slightly acid (pH 6.2).

The particle-size control section averages 27 to 35 percent clay and 15 to 35 percent rock fragments.

*E horizons:* The value is 4 to 7 moist, 5 to 8 dry; and the chroma is 2 to 4 moist or dry. The content of rock fragments is 20 to 30 percent. Tongues of the E material extend into the B material to form the E/B horizon.

*Bt horizons:* The value is 4 or 5 moist, 5 or 6 dry; and the chroma is 3 to 6 moist or dry. The texture is gravelly sandy clay loam or gravelly clay loam.

## Wanship Series

The Wanship series consists of very deep, somewhat poorly drained, moderately over rapidly permeable soils on stream terraces. These soils formed in alluvium derived from sandstone and conglomerate. The slopes are 0 to 3 percent. The elevation ranges from 5,200 to 8,000 feet. The average annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are fine-loamy over sandy or sandy-skeletal, mixed superactive, frigid Aquic Cumulic Haploxerolls.

A typical pedon of Wanship loam in an area of Wanship-Kovich complex, 0 to 3 percent slopes; about  $\frac{3}{4}$  mile west of Hoytsville, about 1,000 feet north and 500 feet east of the southwest corner of sec. 28, T. 2 N., R. 5 E.

A1—0 to 8 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine tubular pores; 5 percent gravel; slightly alkaline (pH 7.6); clear smooth boundary.

A2—8 to 14 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 5 percent gravel; slightly alkaline (pH 7.4); gradual wavy boundary.

A3—14 to 24 inches; very dark grayish brown (10YR 3/2) loam, grayish brown (10YR 5/2) dry; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and few fine roots; many very fine tubular pores; 10 percent gravel; neutral (pH 7.2); clear wavy boundary.

2C1—24 to 26 inches; brown (10YR 4/3) extremely cobbly loamy sand, pale brown (10YR 6/3) dry; common fine distinct, yellowish red (5YR 5/6) and few fine faint gray (10YR 5/1) mottles; massive; soft, friable, non sticky and non plastic; common very fine roots; many very fine interstitial pores; 40 percent gravel and 20 percent cobbles; neutral (pH 7.2); clear wavy boundary.

2C2—26 to 60 inches; brown (10YR 4/3) extremely cobbly loamy sand, pale brown (10YR 6/3) dry; single grain; loose; few very fine roots; many very fine to coarse interstitial pores; 50 percent gravel and 25 percent cobbles; slightly alkaline (pH 7.4).

The mollic epipedon is 20 to 40 inches thick. The upper part of the particle-size control section averages

18 to 27 percent clay and less than 15 percent rock fragments; the lower part averages less than 5 percent clay and 35 to 80 percent rock fragments. The depth to a high water table is 20 to 30 inches from March through May.

*A horizons:* The value is 2 or 3 moist, 4 or 5 dry. The reaction ranges from neutral to moderately alkaline.

*2C horizons:* The value is 3 or 4 moist, 5 or 6 dry; and the chroma is 2 or 3 moist or dry. The texture is extremely cobbly loamy sand or very gravelly sand. The reaction ranges from neutral to moderately alkaline.

### Yeates Hollow Series

The Yeates Hollow series consists of deep, well drained, slowly permeable soils on mountain slopes. These soils formed in colluvium and slope alluvium derived from conglomerate, sandstone, and quartzite. The slopes are 3 to 60 percent. The elevation ranges from 5,600 to 8,400 feet. The average annual precipitation is 16 to 22 inches, and the mean annual air temperature is 40 to 45 degrees F.

These soils are clayey-skeletal, smectitic, frigid Typic Argixerolls.

A typical pedon of Yeates Hollow very stony loam in an area of Yeates Hollow-Henefer complex, 15 to 30 percent slopes; about 3<sup>3</sup>/<sub>4</sub> miles southwest of Wanship, about 1,400 feet west and 700 feet north of the southeast corner of sec. 22, T. 1 N., R. 4 E.

A—0 to 12 inches; very dark grayish brown (10YR 3/2) very stony loam, brown (10YR 4/3) dry; moderate medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine and fine vesicular pores; 15 percent gravel, 20 percent cobbles, and 20 percent stones; neutral (pH 6.8); clear wavy boundary.

Bt1—12 to 25 inches; brown (7.5YR 4/4) very cobbly clay, brown (7.5YR 5/4) dry; moderate medium

and coarse subangular blocky structure; extremely hard, extremely firm, very sticky and very plastic; few very fine, fine and medium roots; common very fine tubular pores; common faint clay films on faces of peds; 20 percent gravel and 20 percent cobbles; slightly acid (pH 6.2); abrupt irregular boundary.

Bt2—25 to 37 inches; brown (10YR 5/3) very cobbly clay, pale brown (10YR 6/3) dry; strong medium and coarse angular blocky structure; extremely hard, extremely firm, very sticky and very plastic; few very fine and fine roots; common very fine tubular pores; common faint and distinct clay films on faces of peds; 20 percent gravel and 20 percent cobbles; moderately acid (pH 5.8); clear irregular boundary.

Bt3—37 to 43 inches; yellowish red (5YR 4/6) extremely cobbly clay loam, reddish yellow (7.5YR 6/6) dry; strong fine subangular blocky structure; extremely hard, extremely firm, very sticky and very plastic; few very fine and fine roots; common very fine tubular pores; common faint and distinct clay films on faces of peds; 10 percent gravel and 60 percent cobbles; moderately acid (pH 5.6); abrupt irregular boundary.

R—43 inches; fractured sandstone.

Bedrock is at a depth of 40 to 60 inches. The mollic epipedon is 10 to 20 inches thick. The particle-size control section averages 35 to 55 percent clay and 35 to 85 percent rock fragments.

*A horizon:* The hue is 10YR or 7.5YR; the value is 2 or 3 moist, 4 or 5 dry; and the chroma is 2 or 3 moist or dry. The reaction ranges from moderately acid to neutral.

*Bt horizons:* The hue is 5YR to 10YR; the value is 2 to 6 moist, 4 to 6 dry; and the chroma is 3 to 6 moist or dry. The texture is very cobbly clay, extremely cobbly clay loam, very gravelly clay loam, or very gravelly clay. The reaction ranges from moderately acid to neutral.



# Formation of the Soils

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This section describes how the five factors of soil formation have affected the soils in the survey area. These factors are: (1) the parent material and its physical, chemical and mineral composition; (2) the climate under which the parent material accumulated and under which it has existed since accumulation; (3) relief or topography of the land; (4) the plant and animal life living in or on the soil; and (5) the length of time these forces have acted on the parent material. Each of these five factors will be discussed in the paragraphs that follow.

## Parent Material

Parent material is the unconsolidated weathered rock material from which soils form. The grain size, porosity, and mineral and chemical composition of this material greatly influence soil formation.

In the eastern part of the survey area in the Uinta Mountains, the parent material consists of reddish to grayish quartzite and quartz sandstone with small areas of shale and siltstone. Examples of soils formed in this material are Duchesne, Uinta, and Skutum. The Sessions soil is on glacial till that occurs within this formation.

Parent material in the central to northern part of the survey area is reddish to grayish sandstone, conglomerate, siltstone, and claystone. Examples of soils formed in this material are Richsum, Crandall, Horrocks, Fewkes, and Heiners.

Parent material in the south central part of the survey area in the West Hills, is light gray to gray igneous rock that is dominantly andesite. Examples of soils formed in this material are Ayoub, Dunford, and Melling.

Parent material in the southwestern part of the survey area is dominantly grayish limestone with layers of siltstone, sandstone, and quartzite, and an area of granite around the Lone Peak area. Examples of soils formed in this material are Agassiz, Dromedary, Parkcity, and Starley.

## Climate

Climate features that significantly affect soil formation are rainfall and temperature. The amount of

precipitation and variations in temperature influence the content of organic matter in the soil, the kind and abundance of native vegetation, the physical movement of substances in suspension or solution, and the rate of chemical processes.

Generally, as rainfall increases, the content of organic matter increases, soil reaction decreases, depth to carbonates increases, and the translocation of clay and minerals increase. Warmer temperatures tend to cause the rates of chemical and biological activity to increase. Alternate periods of freezing and thawing speed the mechanical weathering process by breaking down particles into smaller sizes.

The climate in the survey area ranges from dry sub-humid to humid.

The dry sub-humid climate is in the dryer areas between Coalville and Evanston, Wyoming. The average annual precipitation is 14 to 16 inches; the mean annual air temperature is 40 to 45 degrees F.; the frost-free period is 70 to 100 days; and the temperature regime is frigid. These soils typically are weakly developed with alkaline reaction and are calcareous. Soils in this area include Cutoff, Dastrup, Heiners, and Richsum. The warmer juniper-covered Jana soil has a mean annual air temperature of 45 to 48 degrees F.; the frost-free period is 100 to 120 days; and the temperature regime is mesic.

The moist sub-humid climate is in the lower mountain areas. The average annual precipitation is 16 to 22 inches; the mean annual air temperature is 40 to 45 degrees F.; the frost-free period is 60 to 90 days; and the temperature regime is frigid. These soils typically are well developed with neutral reaction, but some areas are alkaline and calcareous in the lower layers. Soils in this area include Ant Flat, Ayoub, Fewkes, Manila, and Yeates Hollow.

The humid climate is in the higher mountain areas. The average annual precipitation is 22 to 35 inches; the mean annual air temperature is 35 to 40 degrees F.; the frost-free period is 20 to 60 days; and the temperature regime is cryic. These soils typically are well developed with neutral to moderately acid reaction. Soils in this area include Cluff, Crandall, Duchesne, Lucky Star, Parkcity, Sessions, and Skutum.



## Relief

Relief, or landform, affects soil formation principally through its influence on runoff, drainage and microclimate. The steepness and the aspects of slopes are important elements of soil formation.

The landscape of the survey area consists of a few relatively broad valleys surrounded by mountains and narrow valleys. Aspect on steeper slopes is an important element in soil development. Southern aspects have more rapid snowmelt, runoff, and evaporation. This results in less water entering the soil to sustain plants. On northern aspects, temperatures are cooler, snow accumulates in greater quantities and melts at a slower rate, and more water percolates deeply into the soil to sustain plants.

The dominant landforms or topographic features in the survey area are flood plains, stream terraces, fan remnants, mountain slopes, kettles, and till plains. Hovarka, Kovich, and Toddspan soils are on flood plains. Echocreek, Millcreek, Snyderville, and Wanship soils are on stream terraces. Ant Flat, Dastrup, and Manila soils are on fan remnants. Ayoub, Cluff, Horrocks, and Yeates Hollow soils are on mountain slopes. Haydenfork soil is in glacial kettles. Sessions and Uinta soils are on till plains.

## Plants and Animals

The vegetation under which a soil forms influences soil properties, such as color, structure, reaction and content and distribution of organic matter. Vegetation extracts water from the soil, recycles nutrients, and adds organic matter to the soil. Gases derived from root respiration combine with water to form acids that influence the weathering of minerals. Because of a lower content of organic matter, soils that formed under coniferous vegetation generally are lighter in

color than those that formed under grasses and deciduous plants.

Bacteria, fungi, and many other microorganisms decompose organic matter and release nutrients to growing plants. Earthworms, insects, and small burrowing animals mix the soil, incorporate organic matter into the soil, and create small channels that influence soil aeration and the percolation of water.

The moist and warmer soils of the meadows and irrigated farmland areas tend to have the most biologic activity. This activity improves soil tilth and the breakdown and availability of soil nutrients. An example of a meadow soil is Wanship. Examples of irrigated farmland soils are Dastrup and Ant Flat.

## Time

Time is necessary for the formation of soils. The development of distinct horizons in the soil profile requires a certain amount of time. The soils in the survey area range from young soils that exhibit little or no horizon development to older soils that have well-developed profiles.

The youngest soils in the survey area are on flood plains, stream terraces, and valley floors. Echocreek, Wanship, Kovich, and Toddspan are examples. These soils have dark surfaces, but otherwise have weakly developed horizons. Young, weakly developed, calcareous soils on mountain slopes in the survey area are Jana, Heiners, Cutoff, and Richsum soils. Active erosion on these soils limits soil development.

The oldest and most well developed soils in the survey area are on stable fan remnants and mountain slopes. Manila, Sessions, Skutum, and Yeates Hollow are examples. These soils have thick, dark surface layers, well developed subsoils, and are leached of calcium carbonates.

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# Glossary

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**ABC soil.** A soil having an A, a B, and a C horizon.

**AC soil.** A soil having only an A and a C horizon.

Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

**Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

**Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

**Alluvial fan.** The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

**Alluvium.** Material, such as sand, silt, or clay, deposited on land by streams.

**Animal unit month (AUM).** The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

**Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.

**Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.

**Aspect.** The direction in which a slope faces.

**Association, soil.** A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

**Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

|                |        |
|----------------|--------|
| Very low ..... | 0 to 3 |
| Low .....      | 3 to 6 |
| Moderate ..... | 6 to 9 |

High .....

9 to 12

Very high .....

more than 12

**Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

**Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

**Bottom land.** The normal flood plain of a stream, subject to flooding.

**Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.

**Breaks.** The steep and very steep broken land at the border of an upland summit that is dissected by ravines.

**Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

**Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

**Canopy.** The leafy crown of trees or shrubs. (See Crown.)

**Canyon.** A long, deep, narrow, very steep sided valley with high, precipitous walls in an area of high local relief.

**Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

**Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

**Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil,



expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

**Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a chanter.

**Chemical treatment.** Control of unwanted vegetation through the use of chemicals.

**Cirque.** A semicircular, concave, bowl-like area that has steep faces primarily resulting from glacial ice and snow abrasion.

**Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

**Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

**Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

**Coarse textured soil.** Sand or loamy sand.

**Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

**Cobbly soil material.** Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

**Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

**Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

**Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

**Conglomerate.** A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It

commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

**Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

**Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

**Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

**Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

**Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

**Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

**Cropping system.** Growing crops according to a planned system of rotation and management practices.

**Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

**Crown.** The upper part of a tree or shrub, including the living branches and their foliage.

**Decreasers.** The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

**Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.

**Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

**Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

**Drainage class (natural).** Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained*. These classes are defined in the “Soil Survey Manual.”

**Drainage, surface.** Runoff, or surface flow of water, from an area.

**Draw.** A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

**Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

**Ecological site.** An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

**Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

**Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

**Eolian soil material.** Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

**Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation.

It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

**Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

**Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

**Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

**Fallow.** Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

**Fan remnant.** A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

**Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

**Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

**Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity, or capillary capacity*.

**Fine textured soil.** Sandy clay, silty clay, or clay.

**Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

**Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

**Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

**Fluvial.** Of or pertaining to rivers; produced by river action, as a fluvial plain.

**Foothill.** A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

**Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

**Forb.** Any herbaceous plant not a grass or a sedge.

**Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.

**Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

**Glacial drift.** Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.

**Glacial outwash.** Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.

**Glacial till.** Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.

**Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.

**Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.

**Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

**Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

**Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

**Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

**Green manure crop** (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

**Ground water.** Water filling all the unblocked pores of the material below the water table.

**Gully.** A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

**Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

**Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

**Hemic soil material (mucky peat).** Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

**High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

**Hill.** A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

**Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:  
*O horizon.*—An organic layer of fresh and decaying plant residue.

*A horizon.*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

*E horizon.*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

**B horizon.**—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

**C horizon.**—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

**Cr horizon.**—Soft, consolidated bedrock beneath the soil.

**R layer.**—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**Hydrologic soil groups.** Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

**Igneous rock.** Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**Impervious soil.** A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

**Increasers.** Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Intake rate.** The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

|                     |                 |
|---------------------|-----------------|
| Less than 0.2 ..... | very low        |
| 0.2 to 0.4 .....    | low             |
| 0.4 to 0.75 .....   | moderately low  |
| 0.75 to 1.25 .....  | moderate        |
| 1.25 to 1.75 .....  | moderately high |
| 1.75 to 2.5 .....   | high            |
| More than 2.5 ..... | very high       |

**Intermittent stream.** A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Invaders.** On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

**Iron depletions.** Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

**Irrigation.** Application of water to soils to assist in production of crops. Methods of irrigation are:

**Basin.**—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

**Border.**—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

**Controlled flooding.**—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.



**Corrugation.**—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

**Drip (or trickle).**—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

**Furrow.**—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

**Sprinkler.**—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

**Subirrigation.**—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

**Wild flooding.**—Water, released at high points, is allowed to flow onto an area without controlled distribution.

**Kame.** An irregular, short ridge or hill of stratified glacial drift.

**Kettle.** A steep-sided, bowl-shaped depression commonly without surface drainage (closed depression) in drift deposits, often containing a lake or swamp, and formed by the melting of a large, detached block of stagnant ice that had been wholly or partly buried in the drift. Kettles range in depth from 1 to tens of meters, and with diameters up to 13 km.

**Knoll.** A small, low, rounded hill rising above adjacent landforms.

**$K_{sat}$ .** Saturated hydraulic conductivity. (See Permeability.)

**Lacustrine deposit.** Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

**Landform.** Any physical, recognizable form or feature on the earth's surface, having a characteristic shape, and produced by natural causes. Landforms provide an empirical description of similar portions of the earth's surface.

**Landslide.** The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

**LEP (Linear Extensibility Percent).** The linear expression of the volume difference of natural soil fabric at 1/3 bar or 1/10 bar water content and oven dryness. The volume change is reported as percent change for the whole soil. (See Linear Extensibility.)

**Leaching.** The removal of soluble material from soil or other material by percolating water.

**Linear extensibility.** Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

**Liquid limit.** The moisture content at which the soil passes from a plastic to a liquid state.

**Loam.** Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

**Loess.** Fine grained material, dominantly of silt-sized particles, deposited by wind.

**Low-residue crops.** Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

**Low strength.** The soil is not strong enough to support loads.

**Masses.** Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

**Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.

**Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.

**Mesa.** A broad, nearly flat topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.

**Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

**Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

**Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.

**Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.

**MLRA (Major Land Resource Area).** An aggregation of geographically associated land resource units that identifies nearly homogeneous areas of land use, elevation, topography, climate, water resources, potential natural vegetation, and soils.

**Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.

**Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.

**Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

**Moraine.** An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

**Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

**Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

**Mountain.** A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

**Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

**Mudstone.** Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

**Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma.

For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

**Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

**Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

**Organic matter.** Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

|                      |                       |
|----------------------|-----------------------|
| Very low .....       | less than 0.5 percent |
| Low .....            | 0.5 to 1.0 percent    |
| Moderately low ..... | 1.0 to 2.0 percent    |
| Moderate .....       | 2.0 to 4.0 percent    |
| High .....           | 4.0 to 8.0 percent    |
| Very high .....      | more than 8.0 percent |

**Pan.** A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

**Parent material.** The unconsolidated organic and mineral material in which soil forms.

**Peat.** Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

**Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.

**Pedon.** The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

**Percolation.** The movement of water through the soil.

**Permeability.** The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as “permeability.” Terms describing permeability, measured in inches per hour, are as follows:

|                        |                        |
|------------------------|------------------------|
| Extremely slow .....   | 0.0 to 0.01 inch       |
| Very slow .....        | 0.01 to 0.06 inch      |
| Slow .....             | 0.06 to 0.2 inch       |
| Moderately slow .....  | 0.2 to 0.6 inch        |
| Moderate .....         | 0.6 inch to 2.0 inches |
| Moderately rapid ..... | 2.0 to 6.0 inches      |
| Rapid .....            | 6.0 to 20 inches       |
| Very rapid .....       | more than 20 inches    |

**Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

**pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.

**Plowpan.** A compacted layer formed in the soil directly below the plowed layer.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

**Potential native plant community.** (See Climax plant community.)

**Potential native vegetation.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

**Potential rooting depth (effective rooting depth).** Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

**Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

**Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the

desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

**Rangeland.** Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

|                              |                |
|------------------------------|----------------|
| Ultra acid .....             | less than 3.5  |
| Extremely acid .....         | 3.5 to 4.4     |
| Very strongly acid .....     | 4.5 to 5.0     |
| Strongly acid .....          | 5.1 to 5.5     |
| Moderately acid .....        | 5.6 to 6.0     |
| Slightly acid .....          | 6.1 to 6.5     |
| Neutral .....                | 6.6 to 7.3     |
| Slightly alkaline .....      | 7.4 to 7.8     |
| Moderately alkaline .....    | 7.9 to 8.4     |
| Strongly alkaline .....      | 8.5 to 9.0     |
| Very strongly alkaline ..... | 9.1 and higher |

**Red beds.** Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

**Redoximorphic concentrations.** Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

**Redoximorphic depletions.** Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

**Redoximorphic features.** Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

**Reduced matrix.** A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

**Regolith.** The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

**Relief.** The elevations or inequalities of a land surface, considered collectively.

**Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

**Rill.** A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

**Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Root zone.** The part of the soil that can be penetrated by plant roots.

**Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

**Salinity.** A measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

**Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

**Sandstone.** Sedimentary rock containing dominantly sand-sized particles.

**Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

**SAR (Sodium Adsorption Ratio).** (See Sodicity.)

**Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

**Sedimentary rock.** Rock made up of particles deposited from suspension in water. The chief

kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

**Series, soil.** A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

**Shale.** Sedimentary rock formed by the hardening of a clay deposit.

**Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

**Shoulder.** The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

**Shrink-swell.** The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations and other structures. It can also damage plant roots. (See Linear Extensibility.)

**Side slope.** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

**Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

**Siltstone.** Sedimentary rock made up of dominantly silt-sized particles.

**Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

**Site index.** A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

**Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.



In this survey, classes for simple slopes are as follows:

|                          |                       |
|--------------------------|-----------------------|
| Nearly level .....       | 0 to 2 percent        |
| Gently sloping .....     | 2 to 5 percent        |
| Moderately sloping ..... | 5 to 15 percent       |
| Moderately steep .....   | 15 to 30 percent      |
| Steep .....              | 30 to 60 percent      |
| Very steep .....         | 61 percent and higher |

**Sloughed till.** Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

**Sodicity.** The degree to which a soil is affected by exchangeable sodium. It is expressed as a sodium absorption ratio (SAR), which is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

**Soft bedrock.** Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

**Soil.** A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

**Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

|                        |                 |
|------------------------|-----------------|
| Very coarse sand ..... | 2.0 to 1.0      |
| Coarse sand .....      | 1.0 to 0.5      |
| Medium sand .....      | 0.5 to 0.25     |
| Fine sand .....        | 0.25 to 0.10    |
| Very fine sand .....   | 0.10 to 0.05    |
| Silt .....             | 0.05 to 0.002   |
| Clay .....             | less than 0.002 |

**Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

**Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.

**Stripcropping.** Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

**Stubble mulch.** Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

**Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.

**Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

**Substratum.** The part of the soil below the solum.

**Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.

**Summer fallow.** The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

**Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

**Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

**Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

**Talus.** Fragments of rock and other soil material

accumulated by gravity at the foot of cliffs or steep slopes.

**Terminal moraine.** A belt of thick glacial drift that generally marks the termination of important glacial advances.

**Terrace.** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

**Terrace (geologic).** An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

**Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, and clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

**Till plain.** An extensive area of nearly level to undulating soils underlain by glacial till.

**Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

**Toeslope.** The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

**Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily

rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

**Trace elements.** Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

**Upland.** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

**Valley fill.** In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

**Valley floor.** A general term for the nearly level to gently sloping, lowest surface of a valley. Landforms include axial stream channels, the flood plain, and, in some areas, low terrace surfaces.

**Water table.** The upper surface of ground water or that level in the ground where the water is at atmospheric pressure.

**Weathering.** All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

**Well graded.** Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

**Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.



# Tables

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Table 1.--Temperature and precipitation

(Recorded in the period 1961-1990 at Coalville, Echo Dam, Silver Lake  
Brighton, and Wanship Dam, Utah)

| Month      | Temperature (Degrees F.) |                       |      |                          |                        |                                              | Precipitation (Inches) |                          |              |                                                     |               |
|------------|--------------------------|-----------------------|------|--------------------------|------------------------|----------------------------------------------|------------------------|--------------------------|--------------|-----------------------------------------------------|---------------|
|            | avg.<br>daily<br>max.    | avg.<br>daily<br>min. | avg. | 2 yrs.in 10<br>will have |                        | avg.<br># of<br>grow.<br>temp. deg.<br>days* | avg.                   | 2 yrs.in 10<br>will have |              | avg.<br># of<br>days<br>w/.1<br>snow-<br>or<br>fall | avg.<br>total |
|            |                          |                       |      | max.<br>temp.<br>>than   | min.<br>temp.<br><than |                                              |                        | less<br>than             | more<br>than |                                                     |               |
|            |                          |                       |      | °F                       | °F                     |                                              |                        | In.                      | In.          |                                                     |               |
| Coalville: | °F                       | °F                    | °F   | °F                       | °F                     | Units                                        | In.                    | In.                      | In.          |                                                     | In.           |
| January    | 36.8                     | 10.7                  | 23.8 | 57                       | -23                    | 2                                            | 1.07                   | 0.48                     | 1.65         | 3                                                   | 12.3          |
| February   | 41.9                     | 14.1                  | 28.0 | 62                       | -17                    | 7                                            | 1.10                   | 0.54                     | 1.58         | 3                                                   | 13.1          |
| March      | 49.8                     | 21.6                  | 35.7 | 70                       | -5                     | 37                                           | 1.54                   | 0.89                     | 2.12         | 5                                                   | 11.1          |
| April      | 59.8                     | 28.1                  | 43.9 | 80                       | 13                     | 149                                          | 2.00                   | 0.93                     | 2.92         | 5                                                   | 4.9           |
| May        | 69.4                     | 34.4                  | 51.9 | 86                       | 20                     | 366                                          | 1.79                   | 0.78                     | 2.66         | 5                                                   | 2.0           |
| June       | 78.6                     | 40.5                  | 59.5 | 94                       | 29                     | 542                                          | 1.15                   | 0.38                     | 1.78         | 3                                                   | 0.0           |
| July       | 86.1                     | 46.6                  | 66.3 | 95                       | 35                     | 759                                          | 0.95                   | 0.44                     | 1.45         | 2                                                   | 0.0           |
| August     | 84.4                     | 44.6                  | 64.5 | 94                       | 31                     | 750                                          | 1.05                   | 0.24                     | 1.76         | 2                                                   | 0.0           |
| September  | 75.6                     | 36.6                  | 56.1 | 89                       | 20                     | 470                                          | 1.41                   | 0.43                     | 2.29         | 3                                                   | 0.1           |
| October    | 65.6                     | 28.0                  | 46.8 | 82                       | 12                     | 224                                          | 1.48                   | 0.59                     | 2.34         | 3                                                   | 2.1           |
| November   | 50.1                     | 21.0                  | 35.5 | 71                       | -4                     | 40                                           | 1.57                   | 0.69                     | 2.31         | 5                                                   | 9.8           |
| December   | 38.3                     | 12.2                  | 25.2 | 60                       | -19                    | 5                                            | 1.21                   | 0.27                     | 1.95         | 4                                                   | 13.9          |
| Yearly :   |                          |                       |      |                          |                        |                                              |                        |                          |              |                                                     |               |
| Average    | 61.4                     | 28.2                  | 44.8 | ---                      | ---                    | ---                                          | ----                   | ----                     | ----         | ---                                                 | ---           |
| Extreme    | 98                       | -33                   | ---  | 96                       | -26                    | ---                                          | ----                   | ----                     | ----         | ---                                                 | ---           |
| Total      | ---                      | ---                   | ---  | ---                      | ---                    | 3351                                         | 16.32                  | 11.98                    | 18.67        | 43                                                  | 69.3          |
| Echo Dam:  |                          |                       |      |                          |                        |                                              |                        |                          |              |                                                     |               |
| January    | 34.4                     | 10.2                  | 22.3 | 54                       | -24                    | 1                                            | 0.91                   | 0.45                     | 1.37         | 3                                                   | 12.5          |
| February   | 39.7                     | 13.3                  | 26.5 | 60                       | -20                    | 5                                            | 0.96                   | 0.46                     | 1.39         | 3                                                   | 10.6          |
| March      | 48.1                     | 21.9                  | 35.0 | 68                       | -6                     | 36                                           | 1.36                   | 0.75                     | 1.89         | 4                                                   | 10.7          |
| April      | 57.8                     | 29.5                  | 43.7 | 77                       | 13                     | 155                                          | 1.68                   | 0.73                     | 2.50         | 5                                                   | 5.5           |
| May        | 68.2                     | 36.3                  | 52.3 | 84                       | 20                     | 385                                          | 1.66                   | 0.65                     | 2.50         | 5                                                   | 1.9           |
| June       | 78.8                     | 42.7                  | 60.7 | 94                       | 29                     | 622                                          | 1.12                   | 0.35                     | 1.82         | 3                                                   | 0.1           |
| July       | 88.1                     | 49.3                  | 68.7 | 97                       | 37                     | 889                                          | 0.81                   | 0.21                     | 1.29         | 2                                                   | 0.0           |
| August     | 86.2                     | 47.3                  | 66.7 | 96                       | 31                     | 829                                          | 0.86                   | 0.19                     | 1.44         | 2                                                   | 0.0           |
| September  | 76.4                     | 38.3                  | 57.3 | 91                       | 20                     | 521                                          | 1.38                   | 0.38                     | 2.26         | 3                                                   | 0.2           |
| October    | 64.6                     | 29.4                  | 47.0 | 82                       | 12                     | 243                                          | 1.52                   | 0.46                     | 2.39         | 4                                                   | 2.3           |
| November   | 47.4                     | 21.6                  | 34.5 | 69                       | -2                     | 37                                           | 1.47                   | 0.64                     | 2.17         | 4                                                   | 10.6          |
| December   | 36.0                     | 12.8                  | 24.4 | 58                       | -18                    | 3                                            | 1.22                   | 0.35                     | 1.92         | 3                                                   | 12.8          |
| Yearly :   |                          |                       |      |                          |                        |                                              |                        |                          |              |                                                     |               |
| Average    | 60.5                     | 29.4                  | 44.9 | ---                      | ---                    | ---                                          | ----                   | ----                     | ----         | ---                                                 | ---           |
| Extreme    | 99                       | -34                   | ---  | 97                       | -28                    | ---                                          | ----                   | ----                     | ----         | ---                                                 | ---           |
| Total      | ---                      | ---                   | ---  | ---                      | ---                    | 3726                                         | 14.95                  | 11.94                    | 17.80        | 41                                                  | 67.1          |

See footnote at end of table.

Table 1.--Temperature and precipitation--continued

| Month                 | Temperature (Degrees F.) |                       |       |                |                |                               | Precipitation (Inches) |             |       |                                            |                                |
|-----------------------|--------------------------|-----------------------|-------|----------------|----------------|-------------------------------|------------------------|-------------|-------|--------------------------------------------|--------------------------------|
|                       | avg.<br>daily<br>max.    | avg.<br>daily<br>min. | avg   | 2 yrs.in 10    |                | avg.<br># of<br>deg.<br>days* | avg.                   | 2 yrs.in 10 |       | avg.<br># of<br>days<br>w/.1<br>or<br>more | avg.<br>total<br>snow-<br>fall |
|                       |                          |                       |       | will have      |                |                               |                        | will have   |       |                                            |                                |
|                       |                          |                       |       | max.           | min.           |                               |                        | less        | more  |                                            |                                |
|                       |                          |                       |       | temp.<br>>than | temp.<br><than |                               |                        | than        | than  |                                            |                                |
|                       | °F                       | °F                    | °F    | °F             | °F             | Units                         | In.                    | In.         | In.   |                                            | In.                            |
| Silver Lake Brighton: |                          |                       |       |                |                |                               |                        |             |       |                                            |                                |
| January               | 31.1                     | 8.0                   | 19.5  | 51             | -21            | 0                             | 4.92                   | 2.22        | 7.24  | 9                                          | 61.3                           |
| February              | 33.4                     | 8.9                   | 21.2  | 53             | -18            | 0                             | 4.76                   | 2.92        | 6.42  | 8                                          | 61.0                           |
| March                 | 37.0                     | 12.9                  | 25.0  | 54             | -13            | 1                             | 5.43                   | 3.71        | 7.01  | 11                                         | 70.4                           |
| April                 | 44.3                     | 20.0                  | 32.2  | 62             | -3             | 20                            | 4.43                   | 2.34        | 6.56  | 9                                          | 48.5                           |
| May                   | 53.1                     | 28.3                  | 40.7  | 69             | 7              | 105                           | 2.97                   | 0.96        | 4.61  | 6                                          | 20.8                           |
| June                  | 63.7                     | 36.4                  | 50.1  | 79             | 22             | 307                           | 1.84                   | 0.50        | 3.17  | 4                                          | 2.3                            |
| July                  | 72.1                     | 44.3                  | 58.2  | 82             | 30             | 563                           | 1.69                   | 0.46        | 2.68  | 4                                          | 0.0                            |
| August                | 70.1                     | 42.6                  | 56.3  | 81             | 27             | 505                           | 1.95                   | 0.76        | 3.07  | 4                                          | 0.1                            |
| September             | 61.5                     | 35.3                  | 48.4  | 76             | 15             | 272                           | 2.58                   | 0.98        | 4.09  | 5                                          | 3.7                            |
| October               | 50.8                     | 26.3                  | 38.6  | 67             | 4              | 81                            | 3.51                   | 1.50        | 5.44  | 5                                          | 23.6                           |
| November              | 37.9                     | 16.1                  | 27.0  | 57             | -7             | 5                             | 4.87                   | 2.70        | 6.78  | 9                                          | 55.5                           |
| December              | 31.2                     | 8.7                   | 19.9  | 52             | -19            | 0                             | 4.90                   | 1.74        | 7.52  | 9                                          | 60.5                           |
| Yearly :              |                          |                       |       |                |                |                               |                        |             |       |                                            |                                |
| Average               | 48.9                     | 24.0                  | 36.4  | ---            | ---            | ---                           | ----                   | ----        | ----  | ----                                       | ----                           |
| Extreme               | 87                       | -34                   | ---   | 83             | -25            | ---                           | ----                   | ----        | ----  | ----                                       | ----                           |
| Total                 | ---                      | ---                   | ---   | ---            | ---            | 1858                          | 43.86                  | 31.76       | 52.41 | 83                                         | 407.7                          |
| Wanship Dam:          |                          |                       |       |                |                |                               |                        |             |       |                                            |                                |
| January               | 35.1                     | 10.6                  | 22.9  | 53             | -22            | 1                             | 1.17                   | 0.61        | 1.74  | 4                                          | 13.9                           |
| February              | 39.6                     | 13.8                  | 26.7  | 58             | -18            | 5                             | 1.12                   | 0.58        | 1.58  | 3                                          | 12.2                           |
| March                 | 46.6                     | 20.9                  | 33.8  | 66             | -7             | 32                            | 1.52                   | 0.89        | 2.08  | 5                                          | 9.6                            |
| April                 | 57.1                     | 27.8                  | 42.5  | 76             | 10             | 134                           | 1.80                   | 0.85        | 2.62  | 5                                          | 4.0                            |
| May                   | 67.4                     | 34.7                  | 51.0  | 83             | 18             | 349                           | 1.68                   | 0.67        | 2.54  | 5                                          | 0.4                            |
| June                  | 77.4                     | 40.9                  | 59.1  | 92             | 26             | 574                           | 1.14                   | 0.39        | 1.82  | 3                                          | 0.0                            |
| July                  | 85.5                     | 46.9                  | 66.2  | 95             | 33             | 811                           | 1.13                   | 0.46        | 1.69  | 3                                          | 0.0                            |
| August                | 84.4                     | 45.1                  | 64.7  | 94             | 28             | 762                           | 1.08                   | 0.28        | 1.72  | 3                                          | 0.0                            |
| September             | 75.2                     | 36.8                  | 56.0  | 89             | 18             | 483                           | 1.50                   | 0.62        | 2.33  | 3                                          | 0.1                            |
| October               | 63.5                     | 28.1                  | 45.8  | 80             | 10             | 212                           | 1.53                   | 0.51        | 2.37  | 4                                          | 1.2                            |
| November              | 47.1                     | 21.1                  | 34.1  | 67             | -5             | 35                            | 1.61                   | 0.73        | 2.38  | 5                                          | 8.3                            |
| December              | 36.9                     | 12.4                  | 24.7  | 57             | -17            | 4                             | 1.34                   | 0.33        | 2.14  | 4                                          | 11.2                           |
| Yearly :              | -----                    | -----                 | ----- | -----          | -----          | -----                         | -----                  | -----       | ----- | -----                                      | -----                          |
| Average               | 59.6                     | 28.3                  | 44.0  | ---            | ---            | ---                           | ----                   | ----        | ----  | ----                                       | ----                           |
| Extreme               | 98                       | -37                   | ---   | 96             | -27            | ---                           | ----                   | ----        | ----  | ----                                       | ----                           |
| Total                 | ---                      | ---                   | ---   | ---            | ---            | 3403                          | 16.62                  | 13.41       | 19.56 | 47                                         | 60.9                           |

Average # of days per year with at least 1 inch of snow on the ground: 43

\*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area. (Threshold: 40.0 deg. F.)

Table 2.--Freeze dates in spring and fall

(Recorded in the period 1961-1990 at Coalville, Echo Dam, Silver Lake  
Brighton, and Wanship Dam, Utah)

| Probability                          | Temperature   |               |               |
|--------------------------------------|---------------|---------------|---------------|
|                                      | 24°F or lower | 28°F or lower | 32°F or lower |
| Coalville:                           |               |               |               |
| Last freezing temperature in spring: |               |               |               |
| 1 year in 10 later than--            | May 20        | June 4        | July 4        |
| 2 years in 10 later than--           | May 15        | May 30        | June 27       |
| 5 years in 10 later than--           | May 6         | May 19        | June 13       |
| First freezing temperature in fall:  |               |               |               |
| 1 yr. in 10 earlier than--           | September 10  | September 2   | August 20     |
| 2 yrs. in 10 earlier than--          | September 16  | September 7   | August 26     |
| 5 yrs. in 10 earlier than--          | September 28  | September 17  | September 6   |
| Echo Dam:                            |               |               |               |
| Last freezing temperature in spring: |               |               |               |
| 1 year in 10 later than--            | May 19        | June 9        | June 27       |
| 2 years in 10 later than--           | May 13        | June 1        | June 20       |
| 5 years in 10 later than--           | April 30      | May 16        | June 9        |
| First freezing temperature in fall:  |               |               |               |
| 1 yr. in 10 earlier than--           | September 9   | September 3   | August 24     |
| 2 yrs. in 10 earlier than--          | September 16  | September 9   | August 30     |
| 5 yrs. in 10 earlier than--          | September 29  | September 21  | September 10  |

Table 2.--Freeze dates in spring and fall--continued

| Probability                          | Temperature   |               |               |
|--------------------------------------|---------------|---------------|---------------|
|                                      | 24°F or lower | 28°F or lower | 32°F or lower |
| Silver Lake Brighton:                |               |               |               |
| Last freezing temperature in spring: |               |               |               |
| 1 year in 10 later than--            | June 21       | July 4        | July 15       |
| 2 years in 10 later than--           | June 13       | June 27       | July 9        |
| 5 years in 10 later than--           | May 30        | June 15       | June 28       |
| First freezing temperature in fall:  |               |               |               |
| 1 yr. in 10 earlier than--           | September 7   | August 20     | August 10     |
| 2 yrs. in 10 earlier than--          | September 12  | August 26     | August 16     |
| 5 yrs. in 10 earlier than--          | September 23  | September 7   | August 28     |
| Wanship Dam:                         |               |               |               |
| Last freezing temperature in spring: |               |               |               |
| 1 year in 10 later than--            | May 30        | June 21       | July 8        |
| 2 years in 10 later than--           | May 24        | June 14       | July 1        |
| 5 years in 10 later than--           | May 13        | June 2        | June 18       |
| First freezing temperature in fall:  |               |               |               |
| 1 yr. in 10 earlier than--           | September 7   | August 26     | August 15     |
| 2 yrs. in 10 earlier than--          | September 12  | September 1   | August 22     |
| 5 yrs. in 10 earlier than--          | September 22  | September 12  | September 3   |



Table 3.--Growing season

(Recorded in the period 1961-1990 at Coalville, Echo Dam, Silver Lake Brighton, and Wanship Dam, Utah)

| Probability           | Daily Minimum Temperature |               |               |
|-----------------------|---------------------------|---------------|---------------|
|                       | # days > 24°F             | # days > 28°F | # days > 32°F |
| Coalville:            |                           |               |               |
| 9 years in 10         | 118                       | 100           | 57            |
| 8 years in 10         | 127                       | 108           | 66            |
| 5 years in 10         | 143                       | 121           | 85            |
| 2 years in 10         | 159                       | 135           | 103           |
| 1 year in 10          | 167                       | 142           | 113           |
| Echo Dam:             |                           |               |               |
| 9 years in 10         | 121                       | 95            | 64            |
| 8 years in 10         | 131                       | 106           | 74            |
| 5 years in 10         | 151                       | 127           | 92            |
| 2 years in 10         | 170                       | 147           | 111           |
| 1 year in 10          | 180                       | 158           | 120           |
| Silver Lake Brighton: |                           |               |               |
| 9 years in 10         | 82                        | 52            | 35            |
| 8 years in 10         | 94                        | 62            | 44            |
| 5 years in 10         | 116                       | 82            | 61            |
| 2 years in 10         | 138                       | 101           | 77            |
| 1 year in 10          | 149                       | 112           | 86            |
| Wanship Dam:          |                           |               |               |
| 9 years in 10         | 110                       | 78            | 46            |
| 8 years in 10         | 117                       | 86            | 56            |
| 5 years in 10         | 132                       | 102           | 75            |
| 2 years in 10         | 146                       | 117           | 94            |
| 1 year in 10          | 154                       | 125           | 104           |

Table 4.--Acreage and proportionate extent of the soils

| Map<br>symbol | Soil name                                                                 | Acres  | Percent |
|---------------|---------------------------------------------------------------------------|--------|---------|
| 101           | Agassiz-Rock outcrop complex, 30 to 70 percent slopes-----                | 6,240  | 0.9     |
| 102           | Ant Flat loam, 2 to 8 percent slopes-----                                 | 3,419  | 0.5     |
| 103           | Ant Flat loam, 8 to 15 percent slopes-----                                | 2,996  | 0.4     |
| 104           | Ant Flat loam, 15 to 30 percent slopes-----                               | 10,079 | 1.4     |
| 105           | Ant Flat-Henefer-Skutum complex, 8 to 30 percent slopes-----              | 22,890 | 3.2     |
| 106           | Ayoub cobbly loam, 2 to 15 percent slopes-----                            | 7,318  | 1.0     |
| 107           | Ayoub-Dunford-Melling complex, 15 to 30 percent slopes-----               | 10,605 | 1.5     |
| 108           | Ayoub-Dunford-Melling complex, 30 to 60 percent slopes-----               | 7,670  | 1.1     |
| 109           | Cluff loam, 8 to 30 percent slopes-----                                   | 646    | *       |
| 110           | Cluff loam, 30 to 60 percent slopes-----                                  | 2,359  | 0.3     |
| 111           | Crandall gravelly loam, 2 to 8 percent slopes-----                        | 3,006  | 0.4     |
| 112           | Crandall-Lucky Star gravelly loams, 5 to 30 percent slopes-----           | 4,965  | 0.7     |
| 113           | Crandall-Lucky Star-Starley Family complex, 30 to 70 percent slopes-----  | 21,187 | 2.9     |
| 114           | Crandall-Starley Family-Rock outcrop complex, 5 to 30 percent slopes----- | 4,073  | 0.6     |
| 115           | Dastrup loam, 2 to 5 percent slopes-----                                  | 1,478  | 0.2     |
| 116           | Dastrup loam, 5 to 15 percent slopes-----                                 | 3,359  | 0.5     |
| 117           | Dastrup loam, 15 to 30 percent slopes-----                                | 3,039  | 0.4     |
| 118           | Dromedary-Rock outcrop complex, 30 to 70 percent slopes-----              | 13,112 | 1.8     |
| 119           | Duchesne very cobbly sandy loam, 2 to 15 percent slopes-----              | 6,662  | 0.9     |
| 120           | Duchesne very cobbly sandy loam, 15 to 30 percent slopes-----             | 12,917 | 1.8     |
| 121           | Duchesne very cobbly sandy loam, 30 to 60 percent slopes-----             | 4,882  | 0.7     |
| 122           | Duchesne-Haydenfork complex, 0 to 40 percent slopes-----                  | 10,005 | 1.4     |
| 123           | Dumps, mines-----                                                         | 494    | *       |
| 124           | Dunford-Ayoub-Melling complex, 15 to 30 percent slopes-----               | 1,505  | 0.2     |
| 125           | Dunford-Ayoub-Melling complex, 30 to 60 percent slopes-----               | 7,936  | 1.1     |
| 126           | Echocreek loam, 2 to 10 percent slopes-----                               | 6,053  | 0.8     |
| 127           | Echocreek-Kovich loams, 0 to 10 percent slopes-----                       | 12,721 | 1.8     |
| 128           | Fewkes gravelly loam, 2 to 8 percent slopes-----                          | 2,433  | 0.3     |
| 129           | Fewkes gravelly loam, 8 to 15 percent slopes-----                         | 6,448  | 0.9     |
| 130           | Fewkes gravelly loam, 15 to 30 percent slopes-----                        | 8,991  | 1.2     |
| 131           | Fewkes-Heiners gravelly loams, 30 to 70 percent slopes-----               | 2,538  | 0.3     |
| 132           | Fewkes-Hades complex, 15 to 30 percent slopes-----                        | 5,881  | 0.8     |
| 133           | Fewkes-Hades complex, 30 to 60 percent slopes-----                        | 32,589 | 4.5     |
| 134           | Fewkes-Yeates Hollow complex, 5 to 15 percent slopes-----                 | 4,004  | 0.6     |
| 135           | Fewkes-Yeates Hollow complex, 15 to 30 percent slopes-----                | 6,394  | 0.9     |
| 136           | Hades-Agassiz-Rock outcrop complex, 30 to 70 percent slopes-----          | 11,611 | 1.6     |
| 137           | Hades-Fewkes complex, 15 to 30 percent slopes-----                        | 2,303  | 0.3     |
| 138           | Hades-Fewkes complex, 30 to 60 percent slopes-----                        | 17,497 | 2.4     |
| 139           | Harter gravelly loam, 2 to 15 percent slopes-----                         | 2,522  | 0.3     |
| 140           | Heiners-Fewkes gravelly loams, 15 to 30 percent slopes-----               | 7,025  | 1.0     |
| 141           | Heiners-Fewkes-Hades complex, 30 to 70 percent slopes-----                | 46,496 | 6.4     |
| 142           | Henefer-Harter gravelly loams, 15 to 30 percent slopes-----               | 5,177  | 0.7     |
| 143           | Horrocks-Agassiz very cobbly loams, 30 to 70 percent slopes-----          | 16,114 | 2.2     |
| 144           | Horrocks-Cutoff complex, 15 to 30 percent slopes-----                     | 3,546  | 0.5     |
| 145           | Horrocks-Cutoff complex, 30 to 60 percent slopes-----                     | 10,593 | 1.5     |
| 146           | Horrocks-Hades complex, 30 to 60 percent slopes-----                      | 5,933  | 0.8     |
| 147           | Hovarka-Millcreek loams, 0 to 4 percent slopes-----                       | 4,152  | 0.6     |
| 148           | Jana-Richsum-Rock outcrop complex, 30 to 70 percent slopes-----           | 18,542 | 2.6     |
| 149           | Kovich-Toddspan loams, 0 to 3 percent slopes-----                         | 6,489  | 0.9     |
| 150           | Lucky Star gravelly loam, 15 to 30 percent slopes-----                    | 4,804  | 0.7     |
| 151           | Lucky Star gravelly loam, 30 to 60 percent slopes-----                    | 19,264 | 2.7     |
| 152           | Lucky Star-Dromedary gravelly loams, 30 to 70 percent slopes-----         | 5,862  | 0.8     |
| 153           | Lucky Star-Fewkes gravelly loams, 30 to 60 percent slopes-----            | 10,475 | 1.4     |
| 154           | Manila-Ant Flat loams, 2 to 8 percent slopes-----                         | 3,995  | 0.6     |
| 155           | Manila-Ant Flat loams, 8 to 15 percent slopes-----                        | 1,789  | 0.2     |
| 156           | Manila-Harter complex, 2 to 8 percent slopes-----                         | 4,022  | 0.6     |
| 157           | Manila-Henefer complex, 8 to 15 percent slopes-----                       | 1,909  | 0.3     |
| 158           | Melling-Ayoub-Rock outcrop complex, 10 to 30 percent slopes-----          | 1,978  | 0.3     |
| 159           | Parkcity-Dromedary gravelly loams, 15 to 30 percent slopes-----           | 7,110  | 1.0     |
| 160           | Parkcity-Dromedary gravelly loams, 30 to 70 percent slopes-----           | 15,825 | 2.2     |
| 161           | Pits, gravel-----                                                         | 512    | *       |
| 162           | Richsum-Heiners complex, 4 to 15 percent slopes-----                      | 11,798 | 1.6     |

See footnote at end of table.

Table 4.--Acreage and proportionate extent of the soils--continued

| Map<br>symbol | Soil name                                                         | Acres   | Percent |
|---------------|-------------------------------------------------------------------|---------|---------|
| 163           | Richsum-Heiners complex, 15 to 30 percent slopes-----             | 17,233  | 2.4     |
| 164           | Rock outcrop-----                                                 | 15,808  | 2.2     |
| 165           | Rock outcrop-Starley Family complex, 30 to 70 percent slopes----- | 18,530  | 2.6     |
| 166           | Sessions-Haydenfork complex, 0 to 15 percent slopes-----          | 5,672   | 0.8     |
| 167           | Sessions-Skutum loams, 2 to 15 percent slopes-----                | 4,345   | 0.6     |
| 168           | Sessions-Uinta complex, 2 to 30 percent slopes-----               | 16,121  | 2.2     |
| 169           | Skutum loam, 2 to 15 percent slopes-----                          | 7,810   | 1.1     |
| 170           | Skutum loam, 15 to 30 percent slopes-----                         | 25,350  | 3.5     |
| 171           | Skutum loam, 30 to 60 percent slopes-----                         | 19,131  | 2.6     |
| 172           | Skutum-Uinta association, 15 to 30 percent slopes-----            | 13,122  | 1.8     |
| 173           | Skutum-Uinta association, 30 to 60 percent slopes-----            | 7,062   | 1.0     |
| 174           | Snyderville cobbly loam, 1 to 5 percent slopes-----               | 5,496   | 0.8     |
| 175           | Snyderville cobbly loam, 5 to 10 percent slopes-----              | 3,472   | 0.5     |
| 176           | Snyderville gravelly loam, 1 to 5 percent slopes-----             | 2,451   | 0.3     |
| 177           | Uinta-Duchesne complex, 8 to 30 percent slopes-----               | 5,677   | 0.8     |
| 178           | Wanship loam, 0 to 3 percent slopes-----                          | 2,417   | 0.3     |
| 179           | Wanship-Kovich loams, 0 to 3 percent slopes-----                  | 11,871  | 1.6     |
| 180           | Yeates Hollow-Henefer complex, 3 to 15 percent slopes-----        | 1,591   | 0.2     |
| 181           | Yeates Hollow-Henefer complex, 15 to 30 percent slopes-----       | 13,630  | 1.9     |
| 182           | Yeates Hollow-Henefer complex, 30 to 60 percent slopes-----       | 17,780  | 2.4     |
| 183           | Water-----                                                        | 3,061   | 0.4     |
| 184           | Dams-----                                                         | 10      | *       |
|               | Total-----                                                        | 725,877 | 100.0   |

\* Less than 0.1 percent.

Table 5.--Land capability and yields per acre of crops and pasture

(Yields in the "N" columns are for nonirrigated areas; those in the "I" columns are for irrigated areas. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

| Map symbol<br>and soil name | Land<br>capability |     | Alfalfa hay |             | Barley    |           | Pasture    |            |
|-----------------------------|--------------------|-----|-------------|-------------|-----------|-----------|------------|------------|
|                             | N                  | I   | N           | I           | N         | I         | N          | I          |
|                             |                    |     | <u>Tons</u> | <u>Tons</u> | <u>Bu</u> | <u>Bu</u> | <u>AUM</u> | <u>AUM</u> |
| 101:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Agassiz-----                | 7e                 | --- |             |             |           |           |            |            |
| Rock outcrop-----           | 8                  | --- |             |             |           |           |            |            |
| 102:                        |                    |     | ---         | 5.00        | ---       | 95.00     | ---        | 8.00       |
| Ant Flat-----               | 3e                 | 3e  |             |             |           |           |            |            |
| 103:                        |                    |     | ---         | 4.50        | ---       | 85.00     | ---        | 7.00       |
| Ant Flat-----               | 4e                 | 4e  |             |             |           |           |            |            |
| 104:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Ant Flat-----               | 6e                 | --- |             |             |           |           |            |            |
| 105:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Ant Flat-----               | 6e                 | --- |             |             |           |           |            |            |
| Henefer-----                | 6e                 | --- |             |             |           |           |            |            |
| Skutum-----                 | 6e                 | --- |             |             |           |           |            |            |
| 106:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Ayoub-----                  | 6s                 | --- |             |             |           |           |            |            |
| 107:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Ayoub-----                  | 6e                 | --- |             |             |           |           |            |            |
| Dunford-----                | 6e                 | --- |             |             |           |           |            |            |
| Melling-----                | 7s                 | --- |             |             |           |           |            |            |
| 108:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Ayoub-----                  | 7e                 | --- |             |             |           |           |            |            |
| Dunford-----                | 7e                 | --- |             |             |           |           |            |            |
| Melling-----                | 7e                 | --- |             |             |           |           |            |            |
| 109:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Cluff-----                  | 6e                 | --- |             |             |           |           |            |            |
| 110:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Cluff-----                  | 7e                 | --- |             |             |           |           |            |            |
| 111:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Crandall-----               | 6s                 | --- |             |             |           |           |            |            |
| 112:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Crandall-----               | 6e                 | --- |             |             |           |           |            |            |
| Lucky Star-----             | 6e                 | --- |             |             |           |           |            |            |
| 113:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Crandall-----               | 7e                 | --- |             |             |           |           |            |            |
| Lucky Star-----             | 7e                 | --- |             |             |           |           |            |            |
| Starley Family-----         | 7e                 | --- |             |             |           |           |            |            |
| 114:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Crandall-----               | 6e                 | --- |             |             |           |           |            |            |
| Starley Family-----         | 6e                 | --- |             |             |           |           |            |            |
| Rock outcrop-----           | 8                  | --- |             |             |           |           |            |            |
| 115:                        |                    |     | ---         | 5.00        | ---       | 95.00     | ---        | 8.00       |
| Dastrup-----                | 4s                 | 3c  |             |             |           |           |            |            |

Table 5.--Land capability and yields per acre of crops and pasture--continued

| Map symbol<br>and soil name                        | Land<br>capability |          | Alfalfa hay |             | Barley    |           | Pasture    |            |
|----------------------------------------------------|--------------------|----------|-------------|-------------|-----------|-----------|------------|------------|
|                                                    | N                  | I        | N           | I           | N         | I         | N          | I          |
|                                                    |                    |          | <u>Tons</u> | <u>Tons</u> | <u>Bu</u> | <u>Bu</u> | <u>AUM</u> | <u>AUM</u> |
| 116:<br>Dastrup-----                               | 4s                 | 3e       | ---         | 4.50        | ---       | 85.00     | ---        | 7.00       |
| 117:<br>Dastrup-----                               | 6e                 | ---      | ---         | ---         | ---       | ---       | ---        | ---        |
| 118:<br>Dromedary-----<br>Rock outcrop-----        | 7e<br>8            | ---      | ---         | ---         | ---       | ---       | ---        | ---        |
| 119:<br>Duchesne-----                              | 6e                 | ---      | ---         | ---         | ---       | ---       | ---        | ---        |
| 120:<br>Duchesne-----                              | 6e                 | ---      | ---         | ---         | ---       | ---       | ---        | ---        |
| 121:<br>Duchesne-----                              | 7e                 | ---      | ---         | ---         | ---       | ---       | ---        | ---        |
| 122:<br>Duchesne-----<br>Haydenfork-----           | 7e<br>7w           | ---      | ---         | ---         | ---       | ---       | ---        | ---        |
| 123:<br>Dumps, Mines-----                          | 8                  | ---      | ---         | ---         | ---       | ---       | ---        | ---        |
| 124:<br>Dunford-----<br>Ayoub-----<br>Melling----- | 6e<br>6e<br>7s     | ---      | ---         | ---         | ---       | ---       | ---        | ---        |
| 125:<br>Dunford-----<br>Ayoub-----<br>Melling----- | 7e<br>7e<br>7e     | ---      | ---         | ---         | ---       | ---       | ---        | ---        |
| 126:<br>Echocreek-----                             | 4s                 | 3e       | ---         | 5.00        | ---       | 95.00     | ---        | 8.00       |
| 127:<br>Echocreek-----<br>Kovich-----              | 4s<br>7w           | 3e<br>6w | ---         | 5.00        | ---       | 95.00     | ---        | 8.00       |
| 128:<br>Fewkes-----                                | 3e                 | 3e       | ---         | 5.00        | ---       | 95.00     | ---        | 8.00       |
| 129:<br>Fewkes-----                                | 4e                 | 4e       | ---         | 4.50        | ---       | 85.00     | ---        | 7.00       |
| 130:<br>Fewkes-----                                | 6e                 | ---      | ---         | ---         | ---       | ---       | ---        | ---        |
| 131:<br>Fewkes-----<br>Heiners-----                | 7e<br>7e           | ---      | ---         | ---         | ---       | ---       | ---        | ---        |
| 132:<br>Fewkes-----<br>Hades-----                  | 6e<br>6e           | ---      | ---         | ---         | ---       | ---       | ---        | ---        |



Table 5.--Land capability and yields per acre of crops and pasture--continued

| Map symbol<br>and soil name | Land<br>capability |     | Alfalfa hay |             | Barley    |           | Pasture    |            |
|-----------------------------|--------------------|-----|-------------|-------------|-----------|-----------|------------|------------|
|                             | N                  | I   | N           | I           | N         | I         | N          | I          |
|                             |                    |     | <u>Tons</u> | <u>Tons</u> | <u>Bu</u> | <u>Bu</u> | <u>AUM</u> | <u>AUM</u> |
| 133:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Fewkes-----                 | 7e                 | --- |             |             |           |           |            |            |
| Hades-----                  | 7e                 | --- |             |             |           |           |            |            |
| 134:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Fewkes-----                 | 4e                 | --- |             |             |           |           |            |            |
| Yeates Hollow-----          | 6s                 | --- |             |             |           |           |            |            |
| 135:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Fewkes-----                 | 6e                 | --- |             |             |           |           |            |            |
| Yeates Hollow-----          | 6s                 | --- |             |             |           |           |            |            |
| 136:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Hades-----                  | 7e                 | --- |             |             |           |           |            |            |
| Agassiz-----                | 7e                 | --- |             |             |           |           |            |            |
| Rock outcrop-----           | 8                  | --- |             |             |           |           |            |            |
| 137:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Hades-----                  | 6e                 | --- |             |             |           |           |            |            |
| Fewkes-----                 | 6e                 | --- |             |             |           |           |            |            |
| 138:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Hades-----                  | 7e                 | --- |             |             |           |           |            |            |
| Fewkes-----                 | 7e                 | --- |             |             |           |           |            |            |
| 139:                        |                    |     | ---         | 4.50        | ---       | 85.00     | ---        | 7.00       |
| Harter-----                 | 4e                 | 4e  |             |             |           |           |            |            |
| 140:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Heiners-----                | 7s                 | --- |             |             |           |           |            |            |
| Fewkes-----                 | 6e                 | --- |             |             |           |           |            |            |
| 141:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Heiners-----                | 7e                 | --- |             |             |           |           |            |            |
| Fewkes-----                 | 7e                 | --- |             |             |           |           |            |            |
| Hades-----                  | 7e                 | --- |             |             |           |           |            |            |
| 142:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Henefer-----                | 6e                 | --- |             |             |           |           |            |            |
| Harter-----                 | 6e                 | --- |             |             |           |           |            |            |
| 143:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Horrocks-----               | 7e                 | --- |             |             |           |           |            |            |
| Agassiz-----                | 7e                 | --- |             |             |           |           |            |            |
| 144:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Horrocks-----               | 6e                 | --- |             |             |           |           |            |            |
| Cutoff-----                 | 6e                 | --- |             |             |           |           |            |            |
| 145:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Horrocks-----               | 7e                 | --- |             |             |           |           |            |            |
| Cutoff-----                 | 7e                 | --- |             |             |           |           |            |            |
| 146:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Horrocks-----               | 7e                 | --- |             |             |           |           |            |            |
| Hades-----                  | 7e                 | --- |             |             |           |           |            |            |
| 147:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Hovarka-----                | 7w                 | --- |             |             |           |           |            |            |
| Millcreek-----              | 4s                 | --- |             |             |           |           |            |            |

Table 5.--Land capability and yields per acre of crops and pasture--continued

| Map symbol<br>and soil name | Land<br>capability |     | Alfalfa hay |             | Barley    |           | Pasture    |            |
|-----------------------------|--------------------|-----|-------------|-------------|-----------|-----------|------------|------------|
|                             | N                  | I   | N           | I           | N         | I         | N          | I          |
|                             |                    |     | <u>Tons</u> | <u>Tons</u> | <u>Bu</u> | <u>Bu</u> | <u>AUM</u> | <u>AUM</u> |
| 148:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Jana-----                   | 7e                 | --- |             |             |           |           |            |            |
| Richsum-----                | 7e                 | --- |             |             |           |           |            |            |
| Rock outcrop-----           | 8                  | --- |             |             |           |           |            |            |
| 149:                        |                    |     | ---         | ---         | ---       | ---       | ---        | 9.00       |
| Kovich-----                 | 7w                 | 6w  |             |             |           |           |            |            |
| Toddspan-----               | 7w                 | 6w  |             |             |           |           |            |            |
| 150:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Lucky Star-----             | 6e                 | --- |             |             |           |           |            |            |
| 151:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Lucky Star-----             | 7e                 | --- |             |             |           |           |            |            |
| 152:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Lucky Star-----             | 7e                 | --- |             |             |           |           |            |            |
| Dromedary-----              | 7e                 | --- |             |             |           |           |            |            |
| 153:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Lucky Star-----             | 7e                 | --- |             |             |           |           |            |            |
| Fewkes-----                 | 7e                 | --- |             |             |           |           |            |            |
| 154:                        |                    |     | ---         | 4.50        | ---       | 85.00     | ---        | 7.00       |
| Manila-----                 | 4e                 | 4e  |             |             |           |           |            |            |
| Ant Flat-----               | 3e                 | 3e  |             |             |           |           |            |            |
| 155:                        |                    |     | ---         | 4.50        | ---       | 85.00     | ---        | 7.00       |
| Manila-----                 | 4e                 | 4e  |             |             |           |           |            |            |
| Ant Flat-----               | 4e                 | 4e  |             |             |           |           |            |            |
| 156:                        |                    |     | ---         | 5.00        | ---       | 95.00     | ---        | 8.00       |
| Manila-----                 | 3e                 | 3e  |             |             |           |           |            |            |
| Harter-----                 | 3e                 | 3e  |             |             |           |           |            |            |
| 157:                        |                    |     | ---         | 4.50        | ---       | 85.00     | ---        | 7.00       |
| Manila-----                 | 4e                 | 4e  |             |             |           |           |            |            |
| Henefer-----                | 4e                 | 4e  |             |             |           |           |            |            |
| 158:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Melling-----                | 7s                 | --- |             |             |           |           |            |            |
| Ayoub-----                  | 6e                 | --- |             |             |           |           |            |            |
| Rock outcrop-----           | 8                  | --- |             |             |           |           |            |            |
| 159:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Parkcity-----               | 6e                 | --- |             |             |           |           |            |            |
| Dromedary-----              | 6e                 | --- |             |             |           |           |            |            |
| 160:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Parkcity-----               | 7e                 | --- |             |             |           |           |            |            |
| Dromedary-----              | 7e                 | --- |             |             |           |           |            |            |
| 161:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Pits, Gravel-----           | 8                  | --- |             |             |           |           |            |            |
| 162:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Richsum-----                | 4e                 | --- |             |             |           |           |            |            |
| Heiners-----                | 7s                 | --- |             |             |           |           |            |            |
| 163:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Richsum-----                | 6e                 | --- |             |             |           |           |            |            |
| Heiners-----                | 7s                 | --- |             |             |           |           |            |            |

Table 5.--Land capability and yields per acre of crops and pasture--continued

| Map symbol<br>and soil name | Land<br>capability |     | Alfalfa hay |             | Barley    |           | Pasture    |            |
|-----------------------------|--------------------|-----|-------------|-------------|-----------|-----------|------------|------------|
|                             | N                  | I   | N           | I           | N         | I         | N          | I          |
|                             |                    |     | <u>Tons</u> | <u>Tons</u> | <u>Bu</u> | <u>Bu</u> | <u>AUM</u> | <u>AUM</u> |
| 164:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Rock outcrop-----           | 8                  | --- |             |             |           |           |            |            |
| 165:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Rock outcrop-----           | 8                  | --- |             |             |           |           |            |            |
| Starley Family-----         | 7e                 | --- |             |             |           |           |            |            |
| 166:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Sessions-----               | 6c                 | --- |             |             |           |           |            |            |
| Haydenfork-----             | 7w                 | --- |             |             |           |           |            |            |
| 167:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Sessions-----               | 6c                 | --- |             |             |           |           |            |            |
| Skutum-----                 | 6c                 | --- |             |             |           |           |            |            |
| 168:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Sessions-----               | 6c                 | --- |             |             |           |           |            |            |
| Uinta-----                  | 6e                 | --- |             |             |           |           |            |            |
| 169:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Skutum-----                 | 6c                 | --- |             |             |           |           |            |            |
| 170:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Skutum-----                 | 6e                 | --- |             |             |           |           |            |            |
| 171:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Skutum-----                 | 7e                 | --- |             |             |           |           |            |            |
| 172:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Skutum-----                 | 6e                 | --- |             |             |           |           |            |            |
| Uinta-----                  | 6e                 | --- |             |             |           |           |            |            |
| 173:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Skutum-----                 | 7e                 | --- |             |             |           |           |            |            |
| Uinta-----                  | 7e                 | --- |             |             |           |           |            |            |
| 174:                        |                    |     | ---         | ---         | ---       | ---       | ---        | 4.00       |
| Snyderville-----            | 6s                 | 4s  |             |             |           |           |            |            |
| 175:                        |                    |     | ---         | ---         | ---       | ---       | ---        | 3.50       |
| Snyderville-----            | 6s                 | 4s  |             |             |           |           |            |            |
| 176:                        |                    |     | ---         | 3.00        | ---       | 60.00     | ---        | 5.00       |
| Snyderville-----            | 6s                 | 4s  |             |             |           |           |            |            |
| 177:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Uinta-----                  | 6e                 | --- |             |             |           |           |            |            |
| Duchesne-----               | 6e                 | --- |             |             |           |           |            |            |
| 178:                        |                    |     | ---         | ---         | ---       | ---       | ---        | 7.00       |
| Wanship-----                | 4w                 | 4w  |             |             |           |           |            |            |
| 179:                        |                    |     | ---         | ---         | ---       | ---       | ---        | 7.00       |
| Wanship-----                | 4w                 | 4w  |             |             |           |           |            |            |
| Kovich-----                 | 7w                 | 6w  |             |             |           |           |            |            |
| 180:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Yeates Hollow-----          | 6s                 | --- |             |             |           |           |            |            |
| Henefer-----                | 4e                 | --- |             |             |           |           |            |            |

Table 5.--Land capability and yields per acre of crops and pasture--continued

| Map symbol<br>and soil name | Land<br>capability |     | Alfalfa hay |             | Barley    |           | Pasture    |            |
|-----------------------------|--------------------|-----|-------------|-------------|-----------|-----------|------------|------------|
|                             | N                  | I   | N           | I           | N         | I         | N          | I          |
|                             |                    |     | <u>Tons</u> | <u>Tons</u> | <u>Bu</u> | <u>Bu</u> | <u>AUM</u> | <u>AUM</u> |
| 181:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Yeates Hollow-----          | 6s                 | --- |             |             |           |           |            |            |
| Henefer-----                | 6e                 | --- |             |             |           |           |            |            |
| 182:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Yeates Hollow-----          | 7e                 | --- |             |             |           |           |            |            |
| Henefer-----                | 7e                 | --- |             |             |           |           |            |            |
| 183:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Water-----                  | ---                | --- |             |             |           |           |            |            |
| 184:                        |                    |     | ---         | ---         | ---       | ---       | ---        | ---        |
| Dams-----                   | ---                | --- |             |             |           |           |            |            |

Table 6.--Prime farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name.)

| Map<br>symbol | Soil name                                                                  |
|---------------|----------------------------------------------------------------------------|
| 102           | Ant Flat loam, 2 to 8 percent slopes (Prime farmland if irrigated)         |
| 115           | Dastrup loam, 2 to 5 percent slopes (Prime farmland if irrigated)          |
| 126           | Echocreek loam, 2 to 10 percent slopes (Prime farmland if irrigated)       |
| 154           | Manila-Ant Flat loams, 2 to 8 percent slopes (Prime farmland if irrigated) |
| 156           | Manila-Harter complex, 2 to 8 percent slopes (Prime farmland if irrigated) |



Table 7.--Rangeland or forestland understory and characteristic plant communities

(Only the soils that support rangeland vegetation suitable for grazing are rated.)

| Map symbol<br>and soil name | Ecological site                                   | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|---------------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                                   | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                                   | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 101:                        |                                                   |                             |                  |                     |                                 |                          |
| Agassiz-----                | Mountain Shallow Loam<br>(Mountain Big Sagebrush) | 1,700                       | 1,100            | 600                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 20                       |
|                             |                                                   |                             |                  |                     | antelope bitterbrush-----       | 10                       |
|                             |                                                   |                             |                  |                     | muttongrass-----                | 10                       |
|                             |                                                   |                             |                  |                     | Indian ricegrass-----           | 5                        |
|                             |                                                   |                             |                  |                     | arrowleaf balsamroot-----       | 5                        |
|                             |                                                   |                             |                  |                     | bottlebrush squirreltail-----   | 5                        |
|                             |                                                   |                             |                  |                     | mountain snowberry-----         | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                   |                             |                  |                     | western wheatgrass-----         | 5                        |
| Rock outcrop-----           | ---                                               | ---                         | ---              | ---                 | ---                             | ---                      |
| 102:                        |                                                   |                             |                  |                     |                                 |                          |
| Ant Flat-----               | Mountain Loam (Mountain<br>Big Sagebrush)         | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                   |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                   |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                   |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                   |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 103:                        |                                                   |                             |                  |                     |                                 |                          |
| Ant Flat-----               | Mountain Loam (Mountain<br>Big Sagebrush)         | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                   |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                   |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                   |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                   |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 104:                        |                                                   |                             |                  |                     |                                 |                          |
| Ant Flat-----               | Mountain Loam (Mountain<br>Big Sagebrush)         | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                   |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                   |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                   |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                   |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | slender wheatgrass-----         | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                    | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|----------------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                                    | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                                    | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 105:                        |                                                    |                             |                  |                     |                                 |                          |
| Ant Flat-----               | Mountain Loam (Mountain<br>Big Sagebrush)          | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                    |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                                    |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                    |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                    |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                    |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                    |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                  |                     | slender wheatgrass-----         | 5                        |
| Henefer-----                | Mountain Loam (Oak)                                | 2,300                       | 1,650            | 1,450               | Gambel's oak-----               | 30                       |
|                             |                                                    |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                                                    |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                    |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                                    |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                    |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                    |                             |                  |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                                                    |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                    |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                  |                     | slender wheatgrass-----         | 5                        |
|                             |                                                    |                             |                  |                     | thickleaf peavine-----          | 5                        |
| Skutum-----                 | High Mountain Loam<br>(Aspen)                      | 2,500                       | 2,000            | 1,700               | mountain brome-----             | 20                       |
|                             |                                                    |                             |                  |                     | slender wheatgrass-----         | 10                       |
|                             |                                                    |                             |                  |                     | thickleaf peavine-----          | 10                       |
|                             |                                                    |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                    |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                                    |                             |                  |                     | blue wildrye-----               | 5                        |
|                             |                                                    |                             |                  |                     | butterweed groundsel-----       | 5                        |
|                             |                                                    |                             |                  |                     | coneflower-----                 | 5                        |
|                             |                                                    |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                    |                             |                  |                     | mountain snowberry-----         | 5                        |
|                             |                                                    |                             |                  |                     | nodding bluegrass-----          | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                  |                     | sticky geranium-----            | 5                        |
|                             |                                                    |                             |                  |                     | western sweetroot-----          | 5                        |
| 106:                        |                                                    |                             |                  |                     |                                 |                          |
| Ayoub-----                  | Mountain Gravelly Loam<br>(Mountain Big Sagebrush) | 2,000                       | 1,300            | 900                 | bluebunch wheatgrass-----       | 15                       |
|                             |                                                    |                             |                  |                     | slender wheatgrass-----         | 15                       |
|                             |                                                    |                             |                  |                     | Letterman's needlegrass-----    | 10                       |
|                             |                                                    |                             |                  |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                    |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                    |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                    |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                    |                             |                  |                     | birchleaf mountain mahogany---- | 5                        |
|                             |                                                    |                             |                  |                     | muttongrass-----                | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                  |                     | sticky geranium-----            | 5                        |
|                             |                                                    |                             |                  |                     | thickleaf peavine-----          | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                    | Total dry-weight production |                |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|----------------------------------------------------|-----------------------------|----------------|---------------------|---------------------------------|--------------------------|
|                             |                                                    | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                 |                          |
|                             |                                                    | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                 | Pct.                     |
| 107:                        |                                                    |                             |                |                     |                                 |                          |
| Ayoub-----                  | Mountain Gravelly Loam<br>(Mountain Big Sagebrush) | 2,000                       | 1,300          | 900                 | bluebunch wheatgrass-----       | 15                       |
|                             |                                                    |                             |                |                     | slender wheatgrass-----         | 15                       |
|                             |                                                    |                             |                |                     | Letterman's needlegrass-----    | 10                       |
|                             |                                                    |                             |                |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                    |                             |                |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                    |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                    |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                    |                             |                |                     | birchleaf mountain mahogany---- | 5                        |
|                             |                                                    |                             |                |                     | muttongrass-----                | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | sticky geranium-----            | 5                        |
|                             |                                                    |                             |                |                     | thickleaf peavine-----          | 5                        |
| Dunford-----                | Mountain Gravelly Loam<br>(Oak)                    | 2,300                       | 1,900          | 1,500               | Gambel's oak-----               | 25                       |
|                             |                                                    |                             |                |                     | bluebunch wheatgrass-----       | 10                       |
|                             |                                                    |                             |                |                     | mountain snowberry-----         | 10                       |
|                             |                                                    |                             |                |                     | slender wheatgrass-----         | 10                       |
|                             |                                                    |                             |                |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                    |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                    |                             |                |                     | birchleaf mountain mahogany---- | 5                        |
|                             |                                                    |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                                    |                             |                |                     | mountain brome-----             | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | thickleaf peavine-----          | 5                        |
| Melling-----                | Mountain Shallow Loam<br>(Mountain Big Sagebrush)  | 1,700                       | 1,100          | 600                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                    |                             |                |                     | mountain big sagebrush-----     | 20                       |
|                             |                                                    |                             |                |                     | antelope bitterbrush-----       | 10                       |
|                             |                                                    |                             |                |                     | muttongrass-----                | 10                       |
|                             |                                                    |                             |                |                     | Indian ricegrass-----           | 5                        |
|                             |                                                    |                             |                |                     | arrowleaf balsamroot-----       | 5                        |
|                             |                                                    |                             |                |                     | bottlebrush squirreltail-----   | 5                        |
|                             |                                                    |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | western wheatgrass-----         | 5                        |
| 108:                        |                                                    |                             |                |                     |                                 |                          |
| Ayoub-----                  | Mountain Gravelly Loam<br>(Mountain Big Sagebrush) | 2,000                       | 1,300          | 900                 | bluebunch wheatgrass-----       | 15                       |
|                             |                                                    |                             |                |                     | slender wheatgrass-----         | 15                       |
|                             |                                                    |                             |                |                     | Letterman's needlegrass-----    | 10                       |
|                             |                                                    |                             |                |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                    |                             |                |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                    |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                    |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                    |                             |                |                     | birchleaf mountain mahogany---- | 5                        |
|                             |                                                    |                             |                |                     | muttongrass-----                | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | sticky geranium-----            | 5                        |
|                             |                                                    |                             |                |                     | thickleaf peavine-----          | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                   | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|---------------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                                   | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                                   | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 108:                        |                                                   |                             |                  |                     |                                 |                          |
| Dunford-----                | Mountain Gravelly Loam<br>(Oak)                   | 2,300                       | 1,900            | 1,500               | Gambel's oak-----               | 25                       |
|                             |                                                   |                             |                  |                     | bluebunch wheatgrass-----       | 10                       |
|                             |                                                   |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                                                   |                             |                  |                     | slender wheatgrass-----         | 10                       |
|                             |                                                   |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                   |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                   |                             |                  |                     | birchleaf mountain mahogany---  | 5                        |
|                             |                                                   |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                   |                             |                  |                     | mountain brome-----             | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                   |                             |                  |                     | thickleaf peavine-----          | 5                        |
| Melling-----                | Mountain Shallow Loam<br>(Mountain Big Sagebrush) | 1,700                       | 1,100            | 600                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 20                       |
|                             |                                                   |                             |                  |                     | antelope bitterbrush-----       | 10                       |
|                             |                                                   |                             |                  |                     | muttongrass-----                | 10                       |
|                             |                                                   |                             |                  |                     | Indian ricegrass-----           | 5                        |
|                             |                                                   |                             |                  |                     | arrowleaf balsamroot-----       | 5                        |
|                             |                                                   |                             |                  |                     | bottlebrush squirreltail-----   | 5                        |
|                             |                                                   |                             |                  |                     | mountain snowberry-----         | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                   |                             |                  |                     | western wheatgrass-----         | 5                        |
| 109:                        |                                                   |                             |                  |                     |                                 |                          |
| Cluff-----                  | High Mountain Stony Loam<br>(Mixed Conifer)       | 500                         | 200              | 100                 | elk sedge-----                  | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 10                       |
|                             |                                                   |                             |                  |                     | slender wheatgrass-----         | 10                       |
|                             |                                                   |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                   |                             |                  |                     | Wheeler bluegrass-----          | 5                        |
|                             |                                                   |                             |                  |                     | blue wildrye-----               | 5                        |
|                             |                                                   |                             |                  |                     | boxleaf myrtle-----             | 5                        |
|                             |                                                   |                             |                  |                     | common juniper-----             | 5                        |
|                             |                                                   |                             |                  |                     | heartleaf arnica-----           | 5                        |
|                             |                                                   |                             |                  |                     | kinnikinnick-----               | 5                        |
|                             |                                                   |                             |                  |                     | mallow ninebark-----            | 5                        |
|                             |                                                   |                             |                  |                     | mountain snowberry-----         | 5                        |
|                             |                                                   |                             |                  |                     | spike trisetum-----             | 5                        |
| 110:                        |                                                   |                             |                  |                     |                                 |                          |
| Cluff-----                  | High Mountain Stony Loam<br>(Mixed Conifer)       | 500                         | 200              | 100                 | elk sedge-----                  | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 10                       |
|                             |                                                   |                             |                  |                     | slender wheatgrass-----         | 10                       |
|                             |                                                   |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                   |                             |                  |                     | Wheeler bluegrass-----          | 5                        |
|                             |                                                   |                             |                  |                     | blue wildrye-----               | 5                        |
|                             |                                                   |                             |                  |                     | boxleaf myrtle-----             | 5                        |
|                             |                                                   |                             |                  |                     | common juniper-----             | 5                        |
|                             |                                                   |                             |                  |                     | heartleaf arnica-----           | 5                        |
|                             |                                                   |                             |                  |                     | kinnikinnick-----               | 5                        |
|                             |                                                   |                             |                  |                     | mallow ninebark-----            | 5                        |
|                             |                                                   |                             |                  |                     | mountain snowberry-----         | 5                        |
|                             |                                                   |                             |                  |                     | spike trisetum-----             | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                            | Total dry-weight production |                |                     | Characteristic vegetation                                                                                                                                                                                                                                                                                                                                | Rangeland<br>composition                                           |
|-----------------------------|------------------------------------------------------------|-----------------------------|----------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
|                             |                                                            | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                                                                                                                                                                                                                                                                                                                                          |                                                                    |
|                             |                                                            | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                                                                                                                                                                                                                                                                                                                                          | Pct.                                                               |
| 111:<br>Crandall-----       | Alpine Meadow (Alpine<br>Timothy)                          | 2,000                       | 1,600          | 1,200               | alpine timothy-----<br>tufted hairgrass-----<br>alpine bentgrass-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>aster-----<br>fringed brome-----<br>sulphur wildbuckwheat-----<br>timber oatgrass-----                                                                                                                    | 20<br>15<br>10<br>10<br>10<br>5<br>5<br>5<br>5                     |
| 112:<br>Crandall-----       | High Mountain Gravelly<br>Loam (Mountain Big<br>Sagebrush) | 3,000                       | 2,500          | 1,700               | slender wheatgrass-----<br>mountain brome-----<br>Columbia needlegrass-----<br>mountain big sagebrush-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>miscellaneous shrubs-----<br>sheep fescue-----                                                                                                                       | 25<br>15<br>10<br>10<br>10<br>10<br>10<br>10                       |
| Lucky Star-----             | High Mountain Stony Loam<br>(Aspen)                        | 800                         | 600            | 400                 | mountain brome-----<br>nodding brome-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>sticky geranium-----<br>Columbia needlegrass-----<br>Fendler's meadowrue-----<br>Nevada bluegrass-----<br>elk sedge-----<br>mountain big sagebrush-----<br>mountain snowberry-----<br>miscellaneous shrubs-----<br>quaking aspen----- | 10<br>10<br>10<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 |
| 113:<br>Crandall-----       | High Mountain Gravelly<br>Loam (Mountain Big<br>Sagebrush) | 3,000                       | 2,500          | 1,700               | slender wheatgrass-----<br>mountain brome-----<br>Columbia needlegrass-----<br>mountain big sagebrush-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>miscellaneous shrubs-----<br>sheep fescue-----                                                                                                                       | 25<br>15<br>10<br>10<br>10<br>10<br>10<br>10                       |
| Lucky Star-----             | High Mountain Stony Loam<br>(Aspen)                        | 800                         | 600            | 400                 | mountain brome-----<br>nodding brome-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>sticky geranium-----<br>Columbia needlegrass-----<br>Fendler's meadowrue-----<br>Nevada bluegrass-----<br>elk sedge-----<br>mountain big sagebrush-----<br>mountain snowberry-----<br>miscellaneous shrubs-----<br>quaking aspen----- | 10<br>10<br>10<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 |



Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                            | Total dry-weight production |                |                     | Characteristic vegetation                                                                                                                                                                                                                                                                                                                                | Rangeland<br>composition                                      |
|-----------------------------|------------------------------------------------------------|-----------------------------|----------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
|                             |                                                            | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                                                                                                                                                                                                                                                                                                                                          |                                                               |
|                             |                                                            | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                                                                                                                                                                                                                                                                                                                                          | Pct.                                                          |
| 113:<br>Starley Family----- | High Mountain Loam<br>(Mountain Big Sagebrush)             | 3,000                       | 2,500          | 1,700               | slender wheatgrass-----<br>Columbia needlegrass-----<br>mountain big sagebrush-----<br>mountain brome-----<br>sheep fescue-----<br>mountain snowberry-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>miscellaneous shrubs-----<br>sticky geranium-----<br>thickleaf peavine-----                                          | 30<br>10<br>10<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5      |
| 114:<br>Crandall-----       | High Mountain Gravelly<br>Loam (Mountain Big<br>Sagebrush) | 3,000                       | 2,500          | 1,700               | slender wheatgrass-----<br>mountain brome-----<br>Columbia needlegrass-----<br>mountain big sagebrush-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>miscellaneous shrubs-----<br>sheep fescue-----                                                                                                                       | 25<br>15<br>10<br>10<br>10<br>10<br>10<br>10                  |
| Starley Family-----         | High Mountain Loam<br>(Mountain Big Sagebrush)             | 3,000                       | 2,500          | 1,700               | slender wheatgrass-----<br>Columbia needlegrass-----<br>mountain big sagebrush-----<br>mountain brome-----<br>sheep fescue-----<br>mountain snowberry-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>miscellaneous shrubs-----<br>sticky geranium-----<br>thickleaf peavine-----                                          | 30<br>10<br>10<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5      |
| Rock outcrop-----           | ---                                                        | ---                         | ---            | ---                 | ---                                                                                                                                                                                                                                                                                                                                                      | ---                                                           |
| 115:<br>Dastrup-----        | Upland Loam (Mountain Big<br>Sagebrush)                    | 2,000                       | 1,500          | 1,000               | bluebunch wheatgrass-----<br>Indian ricegrass-----<br>basin wildrye-----<br>mountain big sagebrush-----<br>needleandthread-----<br>Oregongrape-----<br>antelope bitterbrush-----<br>aster-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>miscellaneous shrubs-----<br>tapertip hawksbeard-----<br>western wheatgrass----- | 20<br>10<br>10<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5 |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                    | Total dry-weight production |                |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|----------------------------------------------------|-----------------------------|----------------|---------------------|---------------------------------|--------------------------|
|                             |                                                    | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                 |                          |
|                             |                                                    | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                 | Pct.                     |
| 116:                        |                                                    |                             |                |                     |                                 |                          |
| Dastrup-----                | Upland Loam (Mountain Big<br>Sagebrush)            | 2,000                       | 1,500          | 1,000               | bluebunch wheatgrass-----       | 20                       |
|                             |                                                    |                             |                |                     | Indian ricegrass-----           | 10                       |
|                             |                                                    |                             |                |                     | basin wildrye-----              | 10                       |
|                             |                                                    |                             |                |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                    |                             |                |                     | needleandthread-----            | 10                       |
|                             |                                                    |                             |                |                     | Oregongrape-----                | 5                        |
|                             |                                                    |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                    |                             |                |                     | aster-----                      | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | tapertip hawksbeard-----        | 5                        |
|                             |                                                    |                             |                |                     | western wheatgrass-----         | 5                        |
| 117:                        |                                                    |                             |                |                     |                                 |                          |
| Dastrup-----                | Upland Loam (Mountain Big<br>Sagebrush)            | 2,000                       | 1,500          | 1,000               | bluebunch wheatgrass-----       | 20                       |
|                             |                                                    |                             |                |                     | Indian ricegrass-----           | 10                       |
|                             |                                                    |                             |                |                     | basin wildrye-----              | 10                       |
|                             |                                                    |                             |                |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                    |                             |                |                     | needleandthread-----            | 10                       |
|                             |                                                    |                             |                |                     | Oregongrape-----                | 5                        |
|                             |                                                    |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                    |                             |                |                     | aster-----                      | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | tapertip hawksbeard-----        | 5                        |
|                             |                                                    |                             |                |                     | western wheatgrass-----         | 5                        |
| 118:                        |                                                    |                             |                |                     |                                 |                          |
| Dromedary-----              | High Mountain Stony Loam<br>(Douglas-Fir)          | 500                         | 200            | 100                 | mountain snowberry-----         | 20                       |
|                             |                                                    |                             |                |                     | Oregongrape-----                | 15                       |
|                             |                                                    |                             |                |                     | boxleaf myrtle-----             | 10                       |
|                             |                                                    |                             |                |                     | elk sedge-----                  | 10                       |
|                             |                                                    |                             |                |                     | quaking aspen-----              | 10                       |
|                             |                                                    |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                    |                             |                |                     | common juniper-----             | 5                        |
|                             |                                                    |                             |                |                     | heartleaf arnica-----           | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | slender wheatgrass-----         | 5                        |
| Rock outcrop-----           | ---                                                | ---                         | ---            | ---                 | ---                             | ---                      |
| 119:                        |                                                    |                             |                |                     |                                 |                          |
| Duchesne-----               | High Mountain Stony Sandy<br>Loam (Lodgepole Pine) | 800                         | 600            | 400                 | elk sedge-----                  | 10                       |
|                             |                                                    |                             |                |                     | nodding bluegrass-----          | 10                       |
|                             |                                                    |                             |                |                     | nodding brome-----              | 10                       |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 10                       |
|                             |                                                    |                             |                |                     | pinegrass-----                  | 10                       |
|                             |                                                    |                             |                |                     | Oregongrape-----                | 5                        |
|                             |                                                    |                             |                |                     | boxleaf myrtle-----             | 5                        |
|                             |                                                    |                             |                |                     | common juniper-----             | 5                        |
|                             |                                                    |                             |                |                     | fleabane-----                   | 5                        |
|                             |                                                    |                             |                |                     | grouse whortleberry-----        | 5                        |
|                             |                                                    |                             |                |                     | heartleaf arnica-----           | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                    | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|----------------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                                    | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                                    | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 120:                        |                                                    |                             |                  |                     |                                 |                          |
| Duchesne-----               | High Mountain Stony Sandy<br>Loam (Lodgepole Pine) | 800                         | 600              | 400                 | elk sedge-----                  | 10                       |
|                             |                                                    |                             |                  |                     | nodding bluegrass-----          | 10                       |
|                             |                                                    |                             |                  |                     | nodding brome-----              | 10                       |
|                             |                                                    |                             |                  |                     | miscellaneous perennial grasses | 10                       |
|                             |                                                    |                             |                  |                     | pinegrass-----                  | 10                       |
|                             |                                                    |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                    |                             |                  |                     | boxleaf myrtle-----             | 5                        |
|                             |                                                    |                             |                  |                     | common juniper-----             | 5                        |
|                             |                                                    |                             |                  |                     | fleabane-----                   | 5                        |
|                             |                                                    |                             |                  |                     | grouse whortleberry-----        | 5                        |
|                             |                                                    |                             |                  |                     | heartleaf arnica-----           | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
| 121:                        |                                                    |                             |                  |                     |                                 |                          |
| Duchesne-----               | High Mountain Stony Sandy<br>Loam (Lodgepole Pine) | 800                         | 600              | 400                 | elk sedge-----                  | 10                       |
|                             |                                                    |                             |                  |                     | nodding bluegrass-----          | 10                       |
|                             |                                                    |                             |                  |                     | nodding brome-----              | 10                       |
|                             |                                                    |                             |                  |                     | miscellaneous perennial grasses | 10                       |
|                             |                                                    |                             |                  |                     | pinegrass-----                  | 10                       |
|                             |                                                    |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                    |                             |                  |                     | boxleaf myrtle-----             | 5                        |
|                             |                                                    |                             |                  |                     | common juniper-----             | 5                        |
|                             |                                                    |                             |                  |                     | fleabane-----                   | 5                        |
|                             |                                                    |                             |                  |                     | grouse whortleberry-----        | 5                        |
|                             |                                                    |                             |                  |                     | heartleaf arnica-----           | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
| 122:                        |                                                    |                             |                  |                     |                                 |                          |
| Duchesne-----               | High Mountain Stony Sandy<br>Loam (Lodgepole Pine) | 800                         | 600              | 400                 | elk sedge-----                  | 10                       |
|                             |                                                    |                             |                  |                     | nodding bluegrass-----          | 10                       |
|                             |                                                    |                             |                  |                     | nodding brome-----              | 10                       |
|                             |                                                    |                             |                  |                     | miscellaneous perennial grasses | 10                       |
|                             |                                                    |                             |                  |                     | pinegrass-----                  | 10                       |
|                             |                                                    |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                    |                             |                  |                     | boxleaf myrtle-----             | 5                        |
|                             |                                                    |                             |                  |                     | common juniper-----             | 5                        |
|                             |                                                    |                             |                  |                     | fleabane-----                   | 5                        |
|                             |                                                    |                             |                  |                     | grouse whortleberry-----        | 5                        |
|                             |                                                    |                             |                  |                     | heartleaf arnica-----           | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
| Haydenfork-----             | Wet Fresh Meadow (Sedge)                           | 6,500                       | 5,000            | 3,500               | sedge-----                      | 55                       |
|                             |                                                    |                             |                  |                     | mountain rush-----              | 10                       |
|                             |                                                    |                             |                  |                     | tufted hairgrass-----           | 10                       |
|                             |                                                    |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                  |                     | shrubby cinquefoil-----         | 5                        |
|                             |                                                    |                             |                  |                     | white marshmarigold-----        | 5                        |
|                             |                                                    |                             |                  |                     | willow-----                     | 5                        |
| 123:                        |                                                    |                             |                  |                     |                                 |                          |
| Dumps, Mines-----           | ---                                                | ---                         | ---              | ---                 | ---                             | ---                      |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                    | Total dry-weight production |                |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|----------------------------------------------------|-----------------------------|----------------|---------------------|---------------------------------|--------------------------|
|                             |                                                    | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                 |                          |
|                             |                                                    | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                 | Pct.                     |
| 124:                        |                                                    |                             |                |                     |                                 |                          |
| Dunford-----                | Mountain Gravelly Loam<br>(Oak)                    | 2,300                       | 1,900          | 1,500               | Gambel's oak-----               | 25                       |
|                             |                                                    |                             |                |                     | bluebunch wheatgrass-----       | 10                       |
|                             |                                                    |                             |                |                     | mountain snowberry-----         | 10                       |
|                             |                                                    |                             |                |                     | slender wheatgrass-----         | 10                       |
|                             |                                                    |                             |                |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                    |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                    |                             |                |                     | birchleaf mountain mahogany---- | 5                        |
|                             |                                                    |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                                    |                             |                |                     | mountain brome-----             | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | thickleaf peavine-----          | 5                        |
| Ayoub-----                  | Mountain Gravelly Loam<br>(Mountain Big Sagebrush) | 2,000                       | 1,300          | 900                 | bluebunch wheatgrass-----       | 15                       |
|                             |                                                    |                             |                |                     | slender wheatgrass-----         | 15                       |
|                             |                                                    |                             |                |                     | Letterman's needlegrass-----    | 10                       |
|                             |                                                    |                             |                |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                    |                             |                |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                    |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                    |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                    |                             |                |                     | birchleaf mountain mahogany---- | 5                        |
|                             |                                                    |                             |                |                     | muttongrass-----                | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | sticky geranium-----            | 5                        |
|                             |                                                    |                             |                |                     | thickleaf peavine-----          | 5                        |
| Melling-----                | Mountain Shallow Loam<br>(Mountain Big Sagebrush)  | 1,700                       | 1,100          | 600                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                    |                             |                |                     | mountain big sagebrush-----     | 20                       |
|                             |                                                    |                             |                |                     | antelope bitterbrush-----       | 10                       |
|                             |                                                    |                             |                |                     | muttongrass-----                | 10                       |
|                             |                                                    |                             |                |                     | Indian ricegrass-----           | 5                        |
|                             |                                                    |                             |                |                     | arrowleaf balsamroot-----       | 5                        |
|                             |                                                    |                             |                |                     | bottlebrush squirreltail-----   | 5                        |
|                             |                                                    |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | western wheatgrass-----         | 5                        |
| 125:                        |                                                    |                             |                |                     |                                 |                          |
| Dunford-----                | Mountain Gravelly Loam<br>(Oak)                    | 2,300                       | 1,900          | 1,500               | Gambel's oak-----               | 25                       |
|                             |                                                    |                             |                |                     | bluebunch wheatgrass-----       | 10                       |
|                             |                                                    |                             |                |                     | mountain snowberry-----         | 10                       |
|                             |                                                    |                             |                |                     | slender wheatgrass-----         | 10                       |
|                             |                                                    |                             |                |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                    |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                    |                             |                |                     | birchleaf mountain mahogany---- | 5                        |
|                             |                                                    |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                                    |                             |                |                     | mountain brome-----             | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | thickleaf peavine-----          | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                    | Total dry-weight production |                |                     | Characteristic vegetation                                                                                                                                                                                                                                                                                                                                                                                           | Rangeland<br>composition                                               |
|-----------------------------|----------------------------------------------------|-----------------------------|----------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
|                             |                                                    | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                        |
|                             |                                                    | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                                                                                                                                                                                                                                                                                                                                                                                                     | Pct.                                                                   |
| 125:<br>Ayoub-----          | Mountain Gravelly Loam<br>(Mountain Big Sagebrush) | 2,000                       | 1,300          | 900                 | bluebunch wheatgrass-----<br>slender wheatgrass-----<br>Letterman's needlegrass-----<br>mountain big sagebrush-----<br>Columbia needlegrass-----<br>Nevada bluegrass-----<br>antelope bitterbrush-----<br>birchleaf mountain mahogany----<br>muttongrass-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses <br>miscellaneous shrubs-----<br>sticky geranium-----<br>thickleaf peavine----- | 15<br>15<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 |
| Melling-----                | Mountain Shallow Loam<br>(Mountain Big Sagebrush)  | 1,700                       | 1,100          | 600                 | bluebunch wheatgrass-----<br>mountain big sagebrush-----<br>antelope bitterbrush-----<br>muttongrass-----<br>Indian ricegrass-----<br>arrowleaf balsamroot-----<br>bottlebrush squirreltail-----<br>mountain snowberry-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses <br>miscellaneous shrubs-----<br>western wheatgrass-----                                                          | 20<br>20<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5           |
| 126:<br>Echocreek-----      | Upland Loam (Basin<br>Wildrye)                     | 2,500                       | 1,500          | 1,000               | basin wildrye-----<br>basin big sagebrush-----<br>miscellaneous perennial grasses <br>Nevada bluegrass-----<br>miscellaneous perennial forbs--<br>miscellaneous shrubs-----<br>rubber rabbitbrush-----<br>tapertip hawksbeard-----<br>western wheatgrass-----                                                                                                                                                       | 50<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5                           |
| 127:<br>Echocreek-----      | Upland Loam (Basin<br>Wildrye)                     | 2,500                       | 1,500          | 1,000               | basin wildrye-----<br>basin big sagebrush-----<br>miscellaneous perennial grasses <br>Nevada bluegrass-----<br>miscellaneous perennial forbs--<br>miscellaneous shrubs-----<br>rubber rabbitbrush-----<br>tapertip hawksbeard-----<br>western wheatgrass-----                                                                                                                                                       | 50<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5                           |
| Kovich-----                 | Wet Fresh Meadow (Sedge)                           | 6,500                       | 5,000          | 3,500               | sedge-----<br>mountain rush-----<br>tufted hairgrass-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses <br>shrubby cinquefoil-----<br>white marshmarigold-----<br>willow-----                                                                                                                                                                                                              | 55<br>10<br>10<br>5<br>5<br>5<br>5<br>5                                |



Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                 | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|-------------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                                 | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                                 | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 128:                        |                                                 |                             |                  |                     |                                 |                          |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush)       | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                 |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                 |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 129:                        |                                                 |                             |                  |                     |                                 |                          |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush)       | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                 |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                 |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 130:                        |                                                 |                             |                  |                     |                                 |                          |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush)       | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                 |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                 |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 131:                        |                                                 |                             |                  |                     |                                 |                          |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush)       | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                 |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                 |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 5                        |
| Heiners-----                | Upland Shallow Loam<br>(Mountain Big Sagebrush) | 1,100                       | 900              | 600                 | bluebunch wheatgrass-----       | 25                       |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 15                       |
|                             |                                                 |                             |                  |                     | Indian ricegrass-----           | 10                       |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 10                       |
|                             |                                                 |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                 |                             |                  |                     | bottlebrush squirreltail-----   | 5                        |
|                             |                                                 |                             |                  |                     | needleandthread-----            | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                           | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|-------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                           | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                           | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 132:                        |                                           |                             |                  |                     |                                 |                          |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| Hades-----                  | Mountain Loam (Oak)                       | 2,300                       | 1,650            | 1,450               | Gambel's oak-----               | 30                       |
|                             |                                           |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                           |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                           |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                           |                             |                  |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
|                             |                                           |                             |                  |                     | thickleaf peavine-----          | 5                        |
| 133:                        |                                           |                             |                  |                     |                                 |                          |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| Hades-----                  | Mountain Loam (Oak)                       | 2,300                       | 1,650            | 1,450               | Gambel's oak-----               | 30                       |
|                             |                                           |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                           |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                           |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                           |                             |                  |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
|                             |                                           |                             |                  |                     | thickleaf peavine-----          | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                 | Total dry-weight production |                |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|-------------------------------------------------|-----------------------------|----------------|---------------------|---------------------------------|--------------------------|
|                             |                                                 | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                 |                          |
|                             |                                                 | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                 | Pct.                     |
| 134:                        |                                                 |                             |                |                     |                                 |                          |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush)       | 2,200                       | 2,000          | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                 |                             |                |                     | basin wildrye-----              | 10                       |
|                             |                                                 |                             |                |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                 |                             |                |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                 |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                |                     | slender wheatgrass-----         | 5                        |
| Yeates Hollow-----          | Mountain Stony Loam<br>(Mountain Big Sagebrush) | 1,700                       | 1,400          | 850                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                 |                             |                |                     | mountain big sagebrush-----     | 15                       |
|                             |                                                 |                             |                |                     | slender wheatgrass-----         | 10                       |
|                             |                                                 |                             |                |                     | Letterman's needlegrass-----    | 5                        |
|                             |                                                 |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                 |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                 |                             |                |                     | birchleaf mountain mahogany---  | 5                        |
|                             |                                                 |                             |                |                     | common yarrow-----              | 5                        |
|                             |                                                 |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                 |                             |                |                     | sheep fescue-----               | 5                        |
| 135:                        |                                                 |                             |                |                     |                                 |                          |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush)       | 2,200                       | 2,000          | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                 |                             |                |                     | basin wildrye-----              | 10                       |
|                             |                                                 |                             |                |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                 |                             |                |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                 |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                |                     | slender wheatgrass-----         | 5                        |
| Yeates Hollow-----          | Mountain Stony Loam<br>(Mountain Big Sagebrush) | 1,700                       | 1,400          | 850                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                 |                             |                |                     | mountain big sagebrush-----     | 15                       |
|                             |                                                 |                             |                |                     | slender wheatgrass-----         | 10                       |
|                             |                                                 |                             |                |                     | Letterman's needlegrass-----    | 5                        |
|                             |                                                 |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                 |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                 |                             |                |                     | birchleaf mountain mahogany---  | 5                        |
|                             |                                                 |                             |                |                     | common yarrow-----              | 5                        |
|                             |                                                 |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                 |                             |                |                     | sheep fescue-----               | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                   | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|---------------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                                   | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                                   | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 136:                        |                                                   |                             |                  |                     |                                 |                          |
| Hades-----                  | Mountain Loam (Oak)                               | 2,300                       | 1,650            | 1,450               | Gambel's oak-----               | 30                       |
|                             |                                                   |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                   |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                                   |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                   |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                   |                             |                  |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                                                   |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | slender wheatgrass-----         | 5                        |
|                             |                                                   |                             |                  |                     | thickleaf peavine-----          | 5                        |
| Agassiz-----                | Mountain Shallow Loam<br>(Mountain Big Sagebrush) | 1,700                       | 1,100            | 600                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 20                       |
|                             |                                                   |                             |                  |                     | antelope bitterbrush-----       | 10                       |
|                             |                                                   |                             |                  |                     | muttongrass-----                | 10                       |
|                             |                                                   |                             |                  |                     | Indian ricegrass-----           | 5                        |
|                             |                                                   |                             |                  |                     | arrowleaf balsamroot-----       | 5                        |
|                             |                                                   |                             |                  |                     | bottlebrush squirreltail-----   | 5                        |
|                             |                                                   |                             |                  |                     | mountain snowberry-----         | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                   |                             |                  |                     | western wheatgrass-----         | 5                        |
| Rock outcrop-----           | ---                                               | ---                         | ---              | ---                 | ---                             | ---                      |
| 137:                        |                                                   |                             |                  |                     |                                 |                          |
| Hades-----                  | Mountain Loam (Oak)                               | 2,300                       | 1,650            | 1,450               | Gambel's oak-----               | 30                       |
|                             |                                                   |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                   |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                                   |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                   |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                   |                             |                  |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                                                   |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | slender wheatgrass-----         | 5                        |
|                             |                                                   |                             |                  |                     | thickleaf peavine-----          | 5                        |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush)         | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                   |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                   |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                   |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                   |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | slender wheatgrass-----         | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                           | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|-------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                           | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                           | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 138:                        |                                           |                             |                  |                     |                                 |                          |
| Hades-----                  | Mountain Loam (Oak)                       | 2,300                       | 1,650            | 1,450               | Gambel's oak-----               | 30                       |
|                             |                                           |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                           |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                           |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                           |                             |                  |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
|                             |                                           |                             |                  |                     | thickleaf peavine-----          | 5                        |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 139:                        |                                           |                             |                  |                     |                                 |                          |
| Harter-----                 | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 140:                        |                                           |                             |                  |                     |                                 |                          |
| Heiners-----                | Upland Loamy Shale (Low<br>Sagebrush)     | 900                         | 700              | 500                 | low sagebrush-----              | 30                       |
|                             |                                           |                             |                  |                     | bluebunch wheatgrass-----       | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Indian ricegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | spiny phlox-----                | 5                        |
|                             |                                           |                             |                  |                     | western wheatgrass-----         | 5                        |
|                             |                                           |                             |                  |                     | yellow rabbitbrush-----         | 5                        |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |



Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                 | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|-------------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                                 | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                                 | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 141:                        |                                                 |                             |                  |                     |                                 |                          |
| Heiners-----                | Upland Shallow Loam<br>(Mountain Big Sagebrush) | 1,100                       | 900              | 600                 | bluebunch wheatgrass-----       | 25                       |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 15                       |
|                             |                                                 |                             |                  |                     | Indian ricegrass-----           | 10                       |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 10                       |
|                             |                                                 |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                 |                             |                  |                     | bottlebrush squirreltail-----   | 5                        |
|                             |                                                 |                             |                  |                     | needleandthread-----            | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush)       | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                 |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                 |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 5                        |
| Hades-----                  | Mountain Loam (Oak)                             | 2,300                       | 1,650            | 1,450               | Gambel's oak-----               | 30                       |
|                             |                                                 |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                 |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                                 |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                 |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                 |                             |                  |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 5                        |
|                             |                                                 |                             |                  |                     | thickleaf peavine-----          | 5                        |
| 142:                        |                                                 |                             |                  |                     |                                 |                          |
| Henefer-----                | Mountain Loam (Oak)                             | 2,300                       | 1,650            | 1,450               | Gambel's oak-----               | 30                       |
|                             |                                                 |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                 |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                                 |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                 |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                 |                             |                  |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 5                        |
|                             |                                                 |                             |                  |                     | thickleaf peavine-----          | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                   | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|---------------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                                   | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                                   | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 142:                        |                                                   |                             |                  |                     |                                 |                          |
| Harter-----                 | Mountain Loam (Mountain<br>Big Sagebrush)         | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                                   |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                   |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                   |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                   |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 143:                        |                                                   |                             |                  |                     |                                 |                          |
| Horrocks-----               | Mountain Stony Loam (Oak)                         | 1,700                       | 1,400            | 800                 | Gambel's oak-----               | 25                       |
|                             |                                                   |                             |                  |                     | bluebunch wheatgrass-----       | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                   |                             |                  |                     | slender wheatgrass-----         | 10                       |
|                             |                                                   |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                   |                             |                  |                     | muttongrass-----                | 5                        |
| Agassiz-----                | Mountain Shallow Loam<br>(Mountain Big Sagebrush) | 1,700                       | 1,100            | 600                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 20                       |
|                             |                                                   |                             |                  |                     | antelope bitterbrush-----       | 10                       |
|                             |                                                   |                             |                  |                     | muttongrass-----                | 10                       |
|                             |                                                   |                             |                  |                     | Indian ricegrass-----           | 5                        |
|                             |                                                   |                             |                  |                     | arrowleaf balsamroot-----       | 5                        |
|                             |                                                   |                             |                  |                     | bottlebrush squirreltail-----   | 5                        |
|                             |                                                   |                             |                  |                     | mountain snowberry-----         | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                   |                             |                  |                     | western wheatgrass-----         | 5                        |
| 144:                        |                                                   |                             |                  |                     |                                 |                          |
| Horrocks-----               | Mountain Stony Loam<br>(Mountain Big Sagebrush)   | 1,700                       | 1,400            | 850                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                   |                             |                  |                     | mountain big sagebrush-----     | 15                       |
|                             |                                                   |                             |                  |                     | slender wheatgrass-----         | 10                       |
|                             |                                                   |                             |                  |                     | Letterman's needlegrass-----    | 5                        |
|                             |                                                   |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                   |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                   |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                   |                             |                  |                     | birchleaf mountain mahogany---- | 5                        |
|                             |                                                   |                             |                  |                     | common yarrow-----              | 5                        |
|                             |                                                   |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                   |                             |                  |                     | sheep fescue-----               | 5                        |
| Cutoff-----                 | Upland Stony Loam<br>(Mountain Big Sagebrush)     | 1,200                       | 1,100            | 700                 | mountain big sagebrush-----     | 30                       |
|                             |                                                   |                             |                  |                     | bluebunch wheatgrass-----       | 20                       |
|                             |                                                   |                             |                  |                     | antelope bitterbrush-----       | 10                       |
|                             |                                                   |                             |                  |                     | bluegrass-----                  | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                                   |                             |                  |                     | miscellaneous perennial grasses | 10                       |
|                             |                                                   |                             |                  |                     | Indian ricegrass-----           | 5                        |
|                             |                                                   |                             |                  |                     | miscellaneous shrubs-----       | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                 | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|-------------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                                 | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                                 | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 145:                        |                                                 |                             |                  |                     |                                 |                          |
| Horrocks-----               | Mountain Stony Loam<br>(Mountain Big Sagebrush) | 1,700                       | 1,400            | 850                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 15                       |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 10                       |
|                             |                                                 |                             |                  |                     | Letterman's needlegrass-----    | 5                        |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                 |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                 |                             |                  |                     | birchleaf mountain mahogany---- | 5                        |
|                             |                                                 |                             |                  |                     | common yarrow-----              | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                 |                             |                  |                     | sheep fescue-----               | 5                        |
| Cutoff-----                 | Upland Stony Loam<br>(Mountain Big Sagebrush)   | 1,200                       | 950              | 700                 | mountain big sagebrush-----     | 30                       |
|                             |                                                 |                             |                  |                     | bluebunch wheatgrass-----       | 20                       |
|                             |                                                 |                             |                  |                     | antelope bitterbrush-----       | 10                       |
|                             |                                                 |                             |                  |                     | bluegrass-----                  | 10                       |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 10                       |
|                             |                                                 |                             |                  |                     | Indian ricegrass-----           | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
| 146:                        |                                                 |                             |                  |                     |                                 |                          |
| Horrocks-----               | Mountain Stony Loam<br>(Mountain Big Sagebrush) | 1,700                       | 1,400            | 850                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 15                       |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 10                       |
|                             |                                                 |                             |                  |                     | Letterman's needlegrass-----    | 5                        |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                 |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                 |                             |                  |                     | birchleaf mountain mahogany---- | 5                        |
|                             |                                                 |                             |                  |                     | common yarrow-----              | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                 |                             |                  |                     | sheep fescue-----               | 5                        |
| Hades-----                  | Mountain Loam (Oak)                             | 2,300                       | 1,650            | 1,450               | Gambel's oak-----               | 30                       |
|                             |                                                 |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                 |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                                 |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                 |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                 |                             |                  |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 5                        |
|                             |                                                 |                             |                  |                     | thickleaf peavine-----          | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                | Total dry-weight production |                |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|------------------------------------------------|-----------------------------|----------------|---------------------|---------------------------------|--------------------------|
|                             |                                                | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                 |                          |
|                             |                                                | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                 | Pct.                     |
| 147:                        |                                                |                             |                |                     |                                 |                          |
| Hovarka-----                | Wet Fresh Meadow (Sedge)                       | 6,500                       | 5,000          | 3,500               | sedge-----                      | 55                       |
|                             |                                                |                             |                |                     | mountain rush-----              | 10                       |
|                             |                                                |                             |                |                     | tufted hairgrass-----           | 10                       |
|                             |                                                |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                |                             |                |                     | shrubby cinquefoil-----         | 5                        |
|                             |                                                |                             |                |                     | white marshmarigold-----        | 5                        |
|                             |                                                |                             |                |                     | willow-----                     | 5                        |
| Millcreek-----              | High Mountain Loam<br>(Mountain Big Sagebrush) | 3,000                       | 2,500          | 1,700               | slender wheatgrass-----         | 30                       |
|                             |                                                |                             |                |                     | Columbia needlegrass-----       | 10                       |
|                             |                                                |                             |                |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                |                             |                |                     | mountain brome-----             | 10                       |
|                             |                                                |                             |                |                     | sheep fescue-----               | 10                       |
|                             |                                                |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                                |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                |                             |                |                     | sticky geranium-----            | 5                        |
|                             |                                                |                             |                |                     | thickleaf peavine-----          | 5                        |
| 148:                        |                                                |                             |                |                     |                                 |                          |
| Jana-----                   | Upland Gravelly Loam<br>(Utah Juniper)         | 800                         | 600            | 400                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                |                             |                |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                |                             |                |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                                |                             |                |                     | miscellaneous perennial grasses | 10                       |
|                             |                                                |                             |                |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                |                             |                |                     | Indian ricegrass-----           | 5                        |
|                             |                                                |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                                |                             |                |                     | needleandthread-----            | 5                        |
|                             |                                                |                             |                |                     | yellow rabbitbrush-----         | 5                        |
| Richsum-----                | Upland Loam (Mountain Big<br>Sagebrush)        | 2,000                       | 1,500          | 1,000               | bluebunch wheatgrass-----       | 20                       |
|                             |                                                |                             |                |                     | Indian ricegrass-----           | 10                       |
|                             |                                                |                             |                |                     | basin wildrye-----              | 10                       |
|                             |                                                |                             |                |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                |                             |                |                     | needleandthread-----            | 10                       |
|                             |                                                |                             |                |                     | Oregongrape-----                | 5                        |
|                             |                                                |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                |                             |                |                     | aster-----                      | 5                        |
|                             |                                                |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                |                             |                |                     | tapertip hawksbeard-----        | 5                        |
|                             |                                                |                             |                |                     | western wheatgrass-----         | 5                        |
| Rock outcrop-----           | ---                                            | ---                         | ---            | ---                 | ---                             | ---                      |
| 149:                        |                                                |                             |                |                     |                                 |                          |
| Kovich-----                 | Wet Fresh Meadow (Sedge)                       | 6,500                       | 5,000          | 3,500               | sedge-----                      | 55                       |
|                             |                                                |                             |                |                     | mountain rush-----              | 10                       |
|                             |                                                |                             |                |                     | tufted hairgrass-----           | 10                       |
|                             |                                                |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                |                             |                |                     | shrubby cinquefoil-----         | 5                        |
|                             |                                                |                             |                |                     | white marshmarigold-----        | 5                        |
|                             |                                                |                             |                |                     | willow-----                     | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                     | Total dry-weight production |                  |                     | Characteristic vegetation                                                                                                                                                                                                                                                                                                                                | Rangeland<br>composition                                           |
|-----------------------------|-------------------------------------|-----------------------------|------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
|                             |                                     | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                                                                                                                                                                                                                                                                                                                                          |                                                                    |
|                             |                                     | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                                                                                                                                                                                                                                                                                                                                          | <u>Pct.</u>                                                        |
| 149:<br>Toddspan-----       | Wet Fresh Meadow (Sedge)            | 6,500                       | 5,000            | 3,500               | sedge-----<br>mountain rush-----<br>tufted hairgrass-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>shrubby cinquefoil-----<br>white marshmarigold-----<br>willow-----                                                                                                                                                    | 55<br>10<br>10<br>5<br>5<br>5<br>5<br>5                            |
| 150:<br>Lucky Star-----     | High Mountain Stony Loam<br>(Aspen) | 800                         | 600              | 400                 | mountain brome-----<br>nodding brome-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>sticky geranium-----<br>Columbia needlegrass-----<br>Fendler's meadowrue-----<br>Nevada bluegrass-----<br>elk sedge-----<br>mountain big sagebrush-----<br>mountain snowberry-----<br>miscellaneous shrubs-----<br>quaking aspen----- | 10<br>10<br>10<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 |
| 151:<br>Lucky Star-----     | High Mountain Stony Loam<br>(Aspen) | 800                         | 600              | 400                 | mountain brome-----<br>nodding brome-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>sticky geranium-----<br>Columbia needlegrass-----<br>Fendler's meadowrue-----<br>Nevada bluegrass-----<br>elk sedge-----<br>mountain big sagebrush-----<br>mountain snowberry-----<br>miscellaneous shrubs-----<br>quaking aspen----- | 10<br>10<br>10<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 |
| 152:<br>Lucky Star-----     | High Mountain Stony Loam<br>(Aspen) | 800                         | 600              | 400                 | mountain brome-----<br>nodding brome-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>sticky geranium-----<br>Columbia needlegrass-----<br>Fendler's meadowrue-----<br>Nevada bluegrass-----<br>elk sedge-----<br>mountain big sagebrush-----<br>mountain snowberry-----<br>miscellaneous shrubs-----<br>quaking aspen----- | 10<br>10<br>10<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 |



Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                           | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|-------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                           | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                           | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 152:                        |                                           |                             |                  |                     |                                 |                          |
| Dromedary-----              | High Mountain Stony Loam<br>(Douglas-Fir) | 500                         | 200              | 100                 | mountain snowberry-----         | 20                       |
|                             |                                           |                             |                  |                     | Oregongrape-----                | 15                       |
|                             |                                           |                             |                  |                     | boxleaf myrtle-----             | 10                       |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 10                       |
|                             |                                           |                             |                  |                     | quaking aspen-----              | 10                       |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | common juniper-----             | 5                        |
|                             |                                           |                             |                  |                     | heartleaf arnica-----           | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 153:                        |                                           |                             |                  |                     |                                 |                          |
| Lucky Star-----             | High Mountain Stony Loam<br>(Aspen)       | 800                         | 600              | 400                 | mountain brome-----             | 10                       |
|                             |                                           |                             |                  |                     | nodding brome-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 10                       |
|                             |                                           |                             |                  |                     | sticky geranium-----            | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Fendler's meadowrue-----        | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | mountain snowberry-----         | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                           |                             |                  |                     | quaking aspen-----              | 5                        |
| Fewkes-----                 | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 154:                        |                                           |                             |                  |                     |                                 |                          |
| Manila-----                 | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| Ant Flat-----               | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                           | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|-------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                           | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                           | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 155:                        |                                           |                             |                  |                     |                                 |                          |
| Manila-----                 | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| Ant Flat-----               | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 156:                        |                                           |                             |                  |                     |                                 |                          |
| Manila-----                 | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| Harter-----                 | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 157:                        |                                           |                             |                  |                     |                                 |                          |
| Manila-----                 | Mountain Loam (Mountain<br>Big Sagebrush) | 2,200                       | 2,000            | 1,500               | bluebunch wheatgrass-----       | 45                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                    | Total dry-weight production |                |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|----------------------------------------------------|-----------------------------|----------------|---------------------|---------------------------------|--------------------------|
|                             |                                                    | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                 |                          |
|                             |                                                    | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                 | Pct.                     |
| 157:<br>Henefer-----        | Mountain Loam (Oak)                                | 2,300                       | 1,650          | 1,450               | Gambel's oak-----               | 30                       |
|                             |                                                    |                             |                |                     | mountain snowberry-----         | 10                       |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                    |                             |                |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                                    |                             |                |                     | Oregongrape-----                | 5                        |
|                             |                                                    |                             |                |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                    |                             |                |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                                                    |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                                    |                             |                |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | slender wheatgrass-----         | 5                        |
|                             |                                                    |                             |                |                     | thickleaf peavine-----          | 5                        |
| 158:<br>Melling-----        | Mountain Shallow Loam<br>(Mountain Big Sagebrush)  | 1,700                       | 1,100          | 600                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                    |                             |                |                     | mountain big sagebrush-----     | 20                       |
|                             |                                                    |                             |                |                     | antelope bitterbrush-----       | 10                       |
|                             |                                                    |                             |                |                     | muttongrass-----                | 10                       |
|                             |                                                    |                             |                |                     | Indian ricegrass-----           | 5                        |
|                             |                                                    |                             |                |                     | arrowleaf balsamroot-----       | 5                        |
|                             |                                                    |                             |                |                     | bottlebrush squirreltail-----   | 5                        |
|                             |                                                    |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | western wheatgrass-----         | 5                        |
| Ayoub-----                  | Mountain Gravelly Loam<br>(Mountain Big Sagebrush) | 2,000                       | 1,300          | 900                 | bluebunch wheatgrass-----       | 15                       |
|                             |                                                    |                             |                |                     | slender wheatgrass-----         | 15                       |
|                             |                                                    |                             |                |                     | Letterman's needlegrass-----    | 10                       |
|                             |                                                    |                             |                |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                    |                             |                |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                    |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                    |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                    |                             |                |                     | birchleaf mountain mahogany---- | 5                        |
|                             |                                                    |                             |                |                     | muttongrass-----                | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | sticky geranium-----            | 5                        |
|                             |                                                    |                             |                |                     | thickleaf peavine-----          | 5                        |
| Rock outcrop-----           | ---                                                | ---                         | ---            | ---                 | ---                             | ---                      |
| 159:<br>Parkcity-----       | High Mountain Stony Loam<br>(Aspen)                | 800                         | 600            | 400                 | mountain brome-----             | 10                       |
|                             |                                                    |                             |                |                     | nodding brome-----              | 10                       |
|                             |                                                    |                             |                |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                                    |                             |                |                     | miscellaneous perennial grasses | 10                       |
|                             |                                                    |                             |                |                     | sticky geranium-----            | 10                       |
|                             |                                                    |                             |                |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                    |                             |                |                     | Fendler's meadowrue-----        | 5                        |
|                             |                                                    |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                    |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                                    |                             |                |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                    |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                                    |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                |                     | quaking aspen-----              | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                           | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|-------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                           | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                           | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 159:                        |                                           |                             |                  |                     |                                 |                          |
| Dromedary-----              | High Mountain Stony Loam<br>(Douglas-Fir) | 500                         | 200              | 100                 | mountain snowberry-----         | 20                       |
|                             |                                           |                             |                  |                     | Oregongrape-----                | 15                       |
|                             |                                           |                             |                  |                     | boxleaf myrtle-----             | 10                       |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 10                       |
|                             |                                           |                             |                  |                     | quaking aspen-----              | 10                       |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | common juniper-----             | 5                        |
|                             |                                           |                             |                  |                     | heartleaf arnica-----           | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 160:                        |                                           |                             |                  |                     |                                 |                          |
| Parkcity-----               | High Mountain Stony Loam<br>(Aspen)       | 800                         | 600              | 400                 | mountain brome-----             | 10                       |
|                             |                                           |                             |                  |                     | nodding brome-----              | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 10                       |
|                             |                                           |                             |                  |                     | sticky geranium-----            | 10                       |
|                             |                                           |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                           |                             |                  |                     | Fendler's meadowrue-----        | 5                        |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                           |                             |                  |                     | mountain snowberry-----         | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                           |                             |                  |                     | quaking aspen-----              | 5                        |
| Dromedary-----              | High Mountain Stony Loam<br>(Douglas-Fir) | 500                         | 200              | 100                 | mountain snowberry-----         | 20                       |
|                             |                                           |                             |                  |                     | Oregongrape-----                | 15                       |
|                             |                                           |                             |                  |                     | boxleaf myrtle-----             | 10                       |
|                             |                                           |                             |                  |                     | elk sedge-----                  | 10                       |
|                             |                                           |                             |                  |                     | quaking aspen-----              | 10                       |
|                             |                                           |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                           |                             |                  |                     | common juniper-----             | 5                        |
|                             |                                           |                             |                  |                     | heartleaf arnica-----           | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                           |                             |                  |                     | slender wheatgrass-----         | 5                        |
| 161:                        |                                           |                             |                  |                     |                                 |                          |
| Pits, Gravel-----           | ---                                       | ---                         | ---              | ---                 | ---                             | ---                      |
| 162:                        |                                           |                             |                  |                     |                                 |                          |
| Richsum-----                | Upland Loam (Mountain Big<br>Sagebrush)   | 2,000                       | 1,500            | 1,000               | bluebunch wheatgrass-----       | 20                       |
|                             |                                           |                             |                  |                     | Indian ricegrass-----           | 10                       |
|                             |                                           |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                           |                             |                  |                     | mountain big sagebrush-----     | 10                       |
|                             |                                           |                             |                  |                     | needleandthread-----            | 10                       |
|                             |                                           |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                           |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                           |                             |                  |                     | aster-----                      | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                           |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                           |                             |                  |                     | tapertip hawksbeard-----        | 5                        |
|                             |                                           |                             |                  |                     | western wheatgrass-----         | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                 | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|-------------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                                 | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                                 | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 162:                        |                                                 |                             |                  |                     |                                 |                          |
| Heiners-----                | Upland Shallow Loam<br>(Mountain Big Sagebrush) | 1,100                       | 900              | 600                 | bluebunch wheatgrass-----       | 25                       |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 15                       |
|                             |                                                 |                             |                  |                     | Indian ricegrass-----           | 10                       |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 10                       |
|                             |                                                 |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                 |                             |                  |                     | bottlebrush squirreltail-----   | 5                        |
|                             |                                                 |                             |                  |                     | needleandthread-----            | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
| 163:                        |                                                 |                             |                  |                     |                                 |                          |
| Richsum-----                | Upland Loam (Mountain Big<br>Sagebrush)         | 2,000                       | 1,500            | 1,000               | bluebunch wheatgrass-----       | 20                       |
|                             |                                                 |                             |                  |                     | Indian ricegrass-----           | 10                       |
|                             |                                                 |                             |                  |                     | basin wildrye-----              | 10                       |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                 |                             |                  |                     | needleandthread-----            | 10                       |
|                             |                                                 |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                 |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                 |                             |                  |                     | aster-----                      | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                 |                             |                  |                     | tapertip hawksbeard-----        | 5                        |
|                             |                                                 |                             |                  |                     | western wheatgrass-----         | 5                        |
| Heiners-----                | Upland Shallow Loam<br>(Mountain Big Sagebrush) | 1,100                       | 900              | 600                 | bluebunch wheatgrass-----       | 25                       |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 15                       |
|                             |                                                 |                             |                  |                     | Indian ricegrass-----           | 10                       |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 10                       |
|                             |                                                 |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                 |                             |                  |                     | bottlebrush squirreltail-----   | 5                        |
|                             |                                                 |                             |                  |                     | needleandthread-----            | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
| 164:                        |                                                 |                             |                  |                     |                                 |                          |
| Rock outcrop-----           | ---                                             | ---                         | ---              | ---                 | ---                             | ---                      |
| 165:                        |                                                 |                             |                  |                     |                                 |                          |
| Rock outcrop-----           | ---                                             | ---                         | ---              | ---                 | ---                             | ---                      |
| Starley Family-----         | High Mountain Loam<br>(Mountain Big Sagebrush)  | 3,000                       | 2,500            | 1,700               | slender wheatgrass-----         | 30                       |
|                             |                                                 |                             |                  |                     | Columbia needlegrass-----       | 10                       |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                 |                             |                  |                     | mountain brome-----             | 10                       |
|                             |                                                 |                             |                  |                     | sheep fescue-----               | 10                       |
|                             |                                                 |                             |                  |                     | mountain snowberry-----         | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                 |                             |                  |                     | sticky geranium-----            | 5                        |
|                             |                                                 |                             |                  |                     | thickleaf peavine-----          | 5                        |



Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                          | Total dry-weight production |                |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|------------------------------------------|-----------------------------|----------------|---------------------|---------------------------------|--------------------------|
|                             |                                          | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                 |                          |
|                             |                                          | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                 | Pct.                     |
| 166:<br>Sessions-----       | High Mountain Loam<br>(Silver Sagebrush) | 2,200                       | 1,900          | 1,600               | silver sagebrush-----           | 20                       |
|                             |                                          |                             |                |                     | slender wheatgrass-----         | 20                       |
|                             |                                          |                             |                |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                          |                             |                |                     | miscellaneous perennial grasses | 10                       |
|                             |                                          |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                          |                             |                |                     | mountain brome-----             | 5                        |
|                             |                                          |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                          |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                          |                             |                |                     | sticky geranium-----            | 5                        |
|                             |                                          |                             |                |                     | thickleaf peavine-----          | 5                        |
| Haydenfork-----             | Wet Fresh Meadow (Sedge)                 | 6,500                       | 5,000          | 3,500               | sedge-----                      | 55                       |
|                             |                                          |                             |                |                     | mountain rush-----              | 10                       |
|                             |                                          |                             |                |                     | tufted hairgrass-----           | 10                       |
|                             |                                          |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                          |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                          |                             |                |                     | shrubby cinquefoil-----         | 5                        |
|                             |                                          |                             |                |                     | white marshmarigold-----        | 5                        |
|                             |                                          |                             |                |                     | willow-----                     | 5                        |
| 167:<br>Sessions-----       | High Mountain Loam<br>(Silver Sagebrush) | 2,200                       | 1,900          | 1,600               | silver sagebrush-----           | 20                       |
|                             |                                          |                             |                |                     | slender wheatgrass-----         | 20                       |
|                             |                                          |                             |                |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                          |                             |                |                     | miscellaneous perennial grasses | 10                       |
|                             |                                          |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                          |                             |                |                     | mountain brome-----             | 5                        |
|                             |                                          |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                          |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                          |                             |                |                     | sticky geranium-----            | 5                        |
|                             |                                          |                             |                |                     | thickleaf peavine-----          | 5                        |
| Skutum-----                 | High Mountain Loam<br>(Aspen)            | 2,500                       | 2,000          | 1,700               | mountain brome-----             | 20                       |
|                             |                                          |                             |                |                     | slender wheatgrass-----         | 10                       |
|                             |                                          |                             |                |                     | thickleaf peavine-----          | 10                       |
|                             |                                          |                             |                |                     | Columbia needlegrass-----       | 5                        |
|                             |                                          |                             |                |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                          |                             |                |                     | blue wildrye-----               | 5                        |
|                             |                                          |                             |                |                     | butterweed groundsel-----       | 5                        |
|                             |                                          |                             |                |                     | coneflower-----                 | 5                        |
|                             |                                          |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                          |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                          |                             |                |                     | nodding bluegrass-----          | 5                        |
|                             |                                          |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                          |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                          |                             |                |                     | sticky geranium-----            | 5                        |
|                             |                                          |                             |                |                     | western sweetroot-----          | 5                        |
| 168:<br>Sessions-----       | High Mountain Loam<br>(Silver Sagebrush) | 2,200                       | 1,900          | 1,600               | silver sagebrush-----           | 20                       |
|                             |                                          |                             |                |                     | slender wheatgrass-----         | 20                       |
|                             |                                          |                             |                |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                          |                             |                |                     | miscellaneous perennial grasses | 10                       |
|                             |                                          |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                          |                             |                |                     | mountain brome-----             | 5                        |
|                             |                                          |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                          |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                          |                             |                |                     | sticky geranium-----            | 5                        |
|                             |                                          |                             |                |                     | thickleaf peavine-----          | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                             | Total dry-weight production |                |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|---------------------------------------------|-----------------------------|----------------|---------------------|---------------------------------|--------------------------|
|                             |                                             | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                 |                          |
|                             |                                             | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                 | Pct.                     |
| 168:<br>Uinta-----          | High Mountain Stony Loam<br>(Mixed Conifer) | 500                         | 200            | 100                 | elk sedge-----                  | 10                       |
|                             |                                             |                             |                |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                             |                             |                |                     | miscellaneous perennial grasses | 10                       |
|                             |                                             |                             |                |                     | slender wheatgrass-----         | 10                       |
|                             |                                             |                             |                |                     | Oregongrape-----                | 5                        |
|                             |                                             |                             |                |                     | Wheeler bluegrass-----          | 5                        |
|                             |                                             |                             |                |                     | blue wildrye-----               | 5                        |
|                             |                                             |                             |                |                     | boxleaf myrtle-----             | 5                        |
|                             |                                             |                             |                |                     | common juniper-----             | 5                        |
|                             |                                             |                             |                |                     | heartleaf arnica-----           | 5                        |
|                             |                                             |                             |                |                     | kinnikinnick-----               | 5                        |
|                             |                                             |                             |                |                     | mallow ninebark-----            | 5                        |
|                             |                                             |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                             |                             |                |                     | spike trisetum-----             | 5                        |
| 169:<br>Skutum-----         | High Mountain Loam<br>(Aspen)               | 2,500                       | 2,000          | 1,700               | mountain brome-----             | 20                       |
|                             |                                             |                             |                |                     | slender wheatgrass-----         | 10                       |
|                             |                                             |                             |                |                     | thickleaf peavine-----          | 10                       |
|                             |                                             |                             |                |                     | Columbia needlegrass-----       | 5                        |
|                             |                                             |                             |                |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                             |                             |                |                     | blue wildrye-----               | 5                        |
|                             |                                             |                             |                |                     | butterweed groundsel-----       | 5                        |
|                             |                                             |                             |                |                     | coneflower-----                 | 5                        |
|                             |                                             |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                             |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                             |                             |                |                     | nodding bluegrass-----          | 5                        |
|                             |                                             |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                             |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                             |                             |                |                     | sticky geranium-----            | 5                        |
|                             |                                             |                             |                |                     | western sweetroot-----          | 5                        |
| 170:<br>Skutum-----         | High Mountain Loam<br>(Aspen)               | 2,500                       | 2,000          | 1,700               | mountain brome-----             | 20                       |
|                             |                                             |                             |                |                     | slender wheatgrass-----         | 10                       |
|                             |                                             |                             |                |                     | thickleaf peavine-----          | 10                       |
|                             |                                             |                             |                |                     | Columbia needlegrass-----       | 5                        |
|                             |                                             |                             |                |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                             |                             |                |                     | blue wildrye-----               | 5                        |
|                             |                                             |                             |                |                     | butterweed groundsel-----       | 5                        |
|                             |                                             |                             |                |                     | coneflower-----                 | 5                        |
|                             |                                             |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                             |                             |                |                     | mountain snowberry-----         | 5                        |
|                             |                                             |                             |                |                     | nodding bluegrass-----          | 5                        |
|                             |                                             |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                             |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                             |                             |                |                     | sticky geranium-----            | 5                        |
|                             |                                             |                             |                |                     | western sweetroot-----          | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                             | Total dry-weight production |                  |                     | Characteristic vegetation                                                                                                                                                                                                                                                                                                                                                                            | Rangeland<br>composition                                                   |
|-----------------------------|---------------------------------------------|-----------------------------|------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
|                             |                                             | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                            |
|                             |                                             | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                                                                                                                                                                                                                                                                                                                                                                                      | <u>Pct.</u>                                                                |
| 171:<br>Skutum-----         | High Mountain Loam<br>(Aspen)               | 2,500                       | 2,000            | 1,700               | mountain brome-----<br>slender wheatgrass-----<br>thickleaf peavine-----<br>Columbia needlegrass-----<br>Kentucky bluegrass-----<br>blue wildrye-----<br>butterweed groundsel-----<br>coneflower-----<br>elk sedge-----<br>mountain snowberry-----<br>nodding bluegrass-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>sticky geranium-----<br>western sweetroot----- | 20<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 |
| 172:<br>Skutum-----         | High Mountain Loam<br>(Aspen)               | 2,500                       | 2,000            | 1,700               | mountain brome-----<br>slender wheatgrass-----<br>thickleaf peavine-----<br>Columbia needlegrass-----<br>Kentucky bluegrass-----<br>blue wildrye-----<br>butterweed groundsel-----<br>coneflower-----<br>elk sedge-----<br>mountain snowberry-----<br>nodding bluegrass-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>sticky geranium-----<br>western sweetroot----- | 20<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 |
| Uinta-----                  | High Mountain Stony Loam<br>(Mixed Conifer) | 500                         | 200              | 100                 | elk sedge-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>slender wheatgrass-----<br>Oregongrape-----<br>Wheeler bluegrass-----<br>blue wildrye-----<br>boxleaf myrtle-----<br>common juniper-----<br>heartleaf arnica-----<br>kinnikinnick-----<br>mallow ninebark-----<br>mountain snowberry-----<br>spike trisetum-----                                             | 10<br>10<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5     |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                    | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|----------------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                                    | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                                    | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 173:                        |                                                    |                             |                  |                     |                                 |                          |
| Skutum-----                 | High Mountain Loam<br>(Aspen)                      | 2,500                       | 2,000            | 1,700               | mountain brome-----             | 20                       |
|                             |                                                    |                             |                  |                     | slender wheatgrass-----         | 10                       |
|                             |                                                    |                             |                  |                     | thickleaf peavine-----          | 10                       |
|                             |                                                    |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                    |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                                    |                             |                  |                     | blue wildrye-----               | 5                        |
|                             |                                                    |                             |                  |                     | butterweed groundsel-----       | 5                        |
|                             |                                                    |                             |                  |                     | coneflower-----                 | 5                        |
|                             |                                                    |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                    |                             |                  |                     | mountain snowberry-----         | 5                        |
|                             |                                                    |                             |                  |                     | nodding bluegrass-----          | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                  |                     | sticky geranium-----            | 5                        |
|                             |                                                    |                             |                  |                     | western sweetroot-----          | 5                        |
| Uinta-----                  | High Mountain Stony Loam<br>(Mixed Conifer)        | 500                         | 200              | 100                 | elk sedge-----                  | 10                       |
|                             |                                                    |                             |                  |                     | miscellaneous perennial forbs-- | 10                       |
|                             |                                                    |                             |                  |                     | miscellaneous perennial grasses | 10                       |
|                             |                                                    |                             |                  |                     | slender wheatgrass-----         | 10                       |
|                             |                                                    |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                    |                             |                  |                     | Wheeler bluegrass-----          | 5                        |
|                             |                                                    |                             |                  |                     | blue wildrye-----               | 5                        |
|                             |                                                    |                             |                  |                     | boxleaf myrtle-----             | 5                        |
|                             |                                                    |                             |                  |                     | common juniper-----             | 5                        |
|                             |                                                    |                             |                  |                     | heartleaf arnica-----           | 5                        |
|                             |                                                    |                             |                  |                     | kinnikinnick-----               | 5                        |
|                             |                                                    |                             |                  |                     | mallow ninebark-----            | 5                        |
|                             |                                                    |                             |                  |                     | mountain snowberry-----         | 5                        |
|                             |                                                    |                             |                  |                     | spike trisetum-----             | 5                        |
| 174:                        |                                                    |                             |                  |                     |                                 |                          |
| Snyderville-----            | Mountain Gravelly Loam<br>(Mountain Big Sagebrush) | 2,000                       | 1,300            | 900                 | bluebunch wheatgrass-----       | 15                       |
|                             |                                                    |                             |                  |                     | slender wheatgrass-----         | 15                       |
|                             |                                                    |                             |                  |                     | Letterman's needlegrass-----    | 10                       |
|                             |                                                    |                             |                  |                     | mountain big sagebrush-----     | 10                       |
|                             |                                                    |                             |                  |                     | Columbia needlegrass-----       | 5                        |
|                             |                                                    |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                    |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                    |                             |                  |                     | birchleaf mountain mahogany---- | 5                        |
|                             |                                                    |                             |                  |                     | muttongrass-----                | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                    |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                    |                             |                  |                     | sticky geranium-----            | 5                        |
|                             |                                                    |                             |                  |                     | thickleaf peavine-----          | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                    | Total dry-weight production |                |                     | Characteristic vegetation                                                                                                                                                                                                                                                                                                                                                                                         | Rangeland<br>composition                                               |
|-----------------------------|----------------------------------------------------|-----------------------------|----------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
|                             |                                                    | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                        |
|                             |                                                    | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                                                                                                                                                                                                                                                                                                                                                                                                   | Pct.                                                                   |
| 175:<br>Snyderville-----    | Mountain Gravelly Loam<br>(Mountain Big Sagebrush) | 2,000                       | 1,300          | 900                 | bluebunch wheatgrass-----<br>slender wheatgrass-----<br>Letterman's needlegrass-----<br>mountain big sagebrush-----<br>Columbia needlegrass-----<br>Nevada bluegrass-----<br>antelope bitterbrush-----<br>birchleaf mountain mahogany---<br>muttongrass-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>miscellaneous shrubs-----<br>sticky geranium-----<br>thickleaf peavine----- | 15<br>15<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 |
| 176:<br>Snyderville-----    | Mountain Gravelly Loam<br>(Mountain Big Sagebrush) | 2,000                       | 1,300          | 900                 | bluebunch wheatgrass-----<br>slender wheatgrass-----<br>Letterman's needlegrass-----<br>mountain big sagebrush-----<br>Columbia needlegrass-----<br>Nevada bluegrass-----<br>antelope bitterbrush-----<br>birchleaf mountain mahogany---<br>muttongrass-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>miscellaneous shrubs-----<br>sticky geranium-----<br>thickleaf peavine----- | 15<br>15<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 |
| 177:<br>Uinta-----          | High Mountain Stony Loam<br>(Mixed Conifer)        | 500                         | 200            | 100                 | elk sedge-----<br>miscellaneous perennial forbs--<br>miscellaneous perennial grasses<br>slender wheatgrass-----<br>Oregongrape-----<br>Wheeler bluegrass-----<br>blue wildrye-----<br>boxleaf myrtle-----<br>common juniper-----<br>heartleaf arnica-----<br>kinnikinnick-----<br>mallow ninebark-----<br>mountain snowberry-----<br>spike trisetum-----                                                          | 10<br>10<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 |
| Duchesne-----               | High Mountain Stony Sandy<br>Loam (Lodgepole Pine) | 800                         | 600            | 400                 | elk sedge-----<br>nodding bluegrass-----<br>nodding brome-----<br>miscellaneous perennial grasses<br>pinegrass-----<br>Oregongrape-----<br>boxleaf myrtle-----<br>common juniper-----<br>fleabane-----<br>grouse whortleberry-----<br>heartleaf arnica-----<br>miscellaneous perennial forbs--<br>miscellaneous shrubs-----                                                                                       | 10<br>10<br>10<br>10<br>10<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5     |



Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                 | Total dry-weight production |                |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|-------------------------------------------------|-----------------------------|----------------|---------------------|---------------------------------|--------------------------|
|                             |                                                 | Favorable<br>year           | Normal<br>year | Unfavorable<br>year |                                 |                          |
|                             |                                                 | Lbs./acre                   | Lbs./acre      | Lbs./acre           |                                 | Pct.                     |
| 178:                        |                                                 |                             |                |                     |                                 |                          |
| Wanship-----                | Semiwet Fresh Meadow<br>(Redtop)                | 4,200                       | 2,500          | 1,750               | sedge-----                      | 20                       |
|                             |                                                 |                             |                |                     | timothy-----                    | 10                       |
|                             |                                                 |                             |                |                     | tufted hairgrass-----           | 10                       |
|                             |                                                 |                             |                |                     | basin wildrye-----              | 5                        |
|                             |                                                 |                             |                |                     | field horsetail-----            | 5                        |
|                             |                                                 |                             |                |                     | meadow foxtail-----             | 5                        |
|                             |                                                 |                             |                |                     | mountain brome-----             | 5                        |
|                             |                                                 |                             |                |                     | mountain rush-----              | 5                        |
|                             |                                                 |                             |                |                     | muttongrass-----                | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                |                     | redtop-----                     | 5                        |
|                             |                                                 |                             |                |                     | shrubby cinquefoil-----         | 5                        |
|                             |                                                 |                             |                |                     | silver sagebrush-----           | 5                        |
|                             |                                                 |                             |                |                     | slender wheatgrass-----         | 5                        |
|                             |                                                 |                             |                |                     | sticky geranium-----            | 5                        |
| 179:                        |                                                 |                             |                |                     |                                 |                          |
| Wanship-----                | Semiwet Fresh Meadow<br>(Redtop)                | 4,200                       | 2,500          | 1,750               | sedge-----                      | 20                       |
|                             |                                                 |                             |                |                     | timothy-----                    | 10                       |
|                             |                                                 |                             |                |                     | tufted hairgrass-----           | 10                       |
|                             |                                                 |                             |                |                     | basin wildrye-----              | 5                        |
|                             |                                                 |                             |                |                     | field horsetail-----            | 5                        |
|                             |                                                 |                             |                |                     | meadow foxtail-----             | 5                        |
|                             |                                                 |                             |                |                     | mountain brome-----             | 5                        |
|                             |                                                 |                             |                |                     | mountain rush-----              | 5                        |
|                             |                                                 |                             |                |                     | muttongrass-----                | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                |                     | redtop-----                     | 5                        |
|                             |                                                 |                             |                |                     | shrubby cinquefoil-----         | 5                        |
|                             |                                                 |                             |                |                     | silver sagebrush-----           | 5                        |
|                             |                                                 |                             |                |                     | slender wheatgrass-----         | 5                        |
|                             |                                                 |                             |                |                     | sticky geranium-----            | 5                        |
| Kovich-----                 | Wet Fresh Meadow (Sedge)                        | 6,500                       | 5,000          | 3,500               | sedge-----                      | 55                       |
|                             |                                                 |                             |                |                     | mountain rush-----              | 10                       |
|                             |                                                 |                             |                |                     | tufted hairgrass-----           | 10                       |
|                             |                                                 |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                |                     | shrubby cinquefoil-----         | 5                        |
|                             |                                                 |                             |                |                     | white marshmarigold-----        | 5                        |
|                             |                                                 |                             |                |                     | willow-----                     | 5                        |
| 180:                        |                                                 |                             |                |                     |                                 |                          |
| Yeates Hollow-----          | Mountain Stony Loam<br>(Mountain Big Sagebrush) | 1,700                       | 1,400          | 850                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                 |                             |                |                     | mountain big sagebrush-----     | 15                       |
|                             |                                                 |                             |                |                     | slender wheatgrass-----         | 10                       |
|                             |                                                 |                             |                |                     | Letterman's needlegrass-----    | 5                        |
|                             |                                                 |                             |                |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                 |                             |                |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                 |                             |                |                     | birchleaf mountain mahogany---  | 5                        |
|                             |                                                 |                             |                |                     | common yarrow-----              | 5                        |
|                             |                                                 |                             |                |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                 |                             |                |                     | sheep fescue-----               | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site                                 | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|-------------------------------------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                                                 | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                                                 | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 180:<br>Henefer-----        | Mountain Loam (Oak)                             | 2,300                       | 1,650            | 1,450               | Gambel's oak-----               | 30                       |
|                             |                                                 |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                 |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                                 |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                 |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                 |                             |                  |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 5                        |
|                             |                                                 |                             |                  |                     | thickleaf peavine-----          | 5                        |
| 181:<br>Yeates Hollow-----  | Mountain Stony Loam<br>(Mountain Big Sagebrush) | 1,700                       | 1,400            | 850                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 15                       |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 10                       |
|                             |                                                 |                             |                  |                     | Letterman's needlegrass-----    | 5                        |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                 |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                 |                             |                  |                     | birchleaf mountain mahogany---  | 5                        |
|                             |                                                 |                             |                  |                     | common yarrow-----              | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                 |                             |                  |                     | sheep fescue-----               | 5                        |
| Henefer-----                | Mountain Loam (Oak)                             | 2,300                       | 1,650            | 1,450               | Gambel's oak-----               | 30                       |
|                             |                                                 |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                                                 |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                                                 |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                                                 |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                 |                             |                  |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 5                        |
|                             |                                                 |                             |                  |                     | thickleaf peavine-----          | 5                        |
| 182:<br>Yeates Hollow-----  | Mountain Stony Loam<br>(Mountain Big Sagebrush) | 1,700                       | 1,400            | 850                 | bluebunch wheatgrass-----       | 20                       |
|                             |                                                 |                             |                  |                     | mountain big sagebrush-----     | 15                       |
|                             |                                                 |                             |                  |                     | slender wheatgrass-----         | 10                       |
|                             |                                                 |                             |                  |                     | Letterman's needlegrass-----    | 5                        |
|                             |                                                 |                             |                  |                     | Nevada bluegrass-----           | 5                        |
|                             |                                                 |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                                                 |                             |                  |                     | antelope bitterbrush-----       | 5                        |
|                             |                                                 |                             |                  |                     | birchleaf mountain mahogany---  | 5                        |
|                             |                                                 |                             |                  |                     | common yarrow-----              | 5                        |
|                             |                                                 |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                                                 |                             |                  |                     | miscellaneous shrubs-----       | 5                        |
|                             |                                                 |                             |                  |                     | sheep fescue-----               | 5                        |

Table 7.--Rangeland or forestland understory and characteristic plant communities--continued

| Map symbol<br>and soil name | Ecological site     | Total dry-weight production |                  |                     | Characteristic vegetation       | Rangeland<br>composition |
|-----------------------------|---------------------|-----------------------------|------------------|---------------------|---------------------------------|--------------------------|
|                             |                     | Favorable<br>year           | Normal<br>year   | Unfavorable<br>year |                                 |                          |
|                             |                     | <u>Lbs./acre</u>            | <u>Lbs./acre</u> | <u>Lbs./acre</u>    |                                 | <u>Pct.</u>              |
| 182:                        |                     |                             |                  |                     |                                 |                          |
| Henefer-----                | Mountain Loam (Oak) | 2,300                       | 1,650            | 1,450               | Gambel's oak-----               | 30                       |
|                             |                     |                             |                  |                     | mountain snowberry-----         | 10                       |
|                             |                     |                             |                  |                     | miscellaneous shrubs-----       | 10                       |
|                             |                     |                             |                  |                     | Kentucky bluegrass-----         | 5                        |
|                             |                     |                             |                  |                     | Oregongrape-----                | 5                        |
|                             |                     |                             |                  |                     | Saskatoon serviceberry-----     | 5                        |
|                             |                     |                             |                  |                     | bluebunch wheatgrass-----       | 5                        |
|                             |                     |                             |                  |                     | elk sedge-----                  | 5                        |
|                             |                     |                             |                  |                     | mountain big sagebrush-----     | 5                        |
|                             |                     |                             |                  |                     | miscellaneous perennial forbs-- | 5                        |
|                             |                     |                             |                  |                     | miscellaneous perennial grasses | 5                        |
|                             |                     |                             |                  |                     | slender wheatgrass-----         | 5                        |
|                             |                     |                             |                  |                     | thickleaf peavine-----          | 5                        |
| 183:                        |                     |                             |                  |                     |                                 |                          |
| Water-----                  | ---                 | ---                         | ---              | ---                 | ---                             | ---                      |
| 184:                        |                     |                             |                  |                     |                                 |                          |
| Dams-----                   | ---                 | ---                         | ---              | ---                 | ---                             | ---                      |

Table 8.--Forest productivity

| Map symbol and<br>soil name | Potential productivity |               |                            |
|-----------------------------|------------------------|---------------|----------------------------|
|                             | Common trees           | Site<br>index | Volume<br>of wood<br>fiber |
|                             |                        |               | cu ft/ac                   |
| 101:                        |                        |               |                            |
| Agassiz-----                | ---                    | ---           | ---                        |
| Rock outcrop-----           | ---                    | ---           | ---                        |
| 102:                        |                        |               |                            |
| Ant Flat-----               | ---                    | ---           | ---                        |
| 103:                        |                        |               |                            |
| Ant Flat-----               | ---                    | ---           | ---                        |
| 104:                        |                        |               |                            |
| Ant Flat-----               | ---                    | ---           | ---                        |
| 105:                        |                        |               |                            |
| Ant Flat-----               | ---                    | ---           | ---                        |
| Henefer-----                | ---                    | ---           | ---                        |
| Skutum-----                 | quaking aspen-----     | 75            | 43                         |
| 106:                        |                        |               |                            |
| Ayoub-----                  | ---                    | ---           | ---                        |
| 107:                        |                        |               |                            |
| Ayoub-----                  | ---                    | ---           | ---                        |
| Dunford-----                | ---                    | ---           | ---                        |
| Melling-----                | ---                    | ---           | ---                        |
| 108:                        |                        |               |                            |
| Ayoub-----                  | ---                    | ---           | ---                        |
| Dunford-----                | ---                    | ---           | ---                        |
| Melling-----                | ---                    | ---           | ---                        |
| 109:                        |                        |               |                            |
| Cluff-----                  | Engelmann's spruce--   | 80            | 72                         |
|                             | Rocky Mountain         | 50            | 29                         |
|                             | Douglas-fir-----       |               |                            |
|                             | subalpine fir-----     | 60            | 43                         |
|                             | white fir-----         | 50            | 86                         |
| 110:                        |                        |               |                            |
| Cluff-----                  | Engelmann's spruce--   | 80            | 72                         |
|                             | Rocky Mountain         | 50            | 29                         |
|                             | Douglas-fir-----       |               |                            |
|                             | subalpine fir-----     | 60            | 43                         |
|                             | white fir-----         | 50            | 86                         |
| 111:                        |                        |               |                            |
| Crandall-----               | Engelmann's spruce--   | 80            | 72                         |
|                             | Rocky Mountain         | 50            | 29                         |
|                             | Douglas-fir-----       |               |                            |
|                             | subalpine fir-----     | 60            | 43                         |
|                             | white fir-----         | 50            | 86                         |
| 112:                        |                        |               |                            |
| Crandall-----               | ---                    | ---           | ---                        |

Table 8.--Forest productivity--continued

| Map symbol and<br>soil name | Potential productivity         |               |                            |
|-----------------------------|--------------------------------|---------------|----------------------------|
|                             | Common trees                   | Site<br>index | Volume<br>of wood<br>fiber |
|                             |                                |               | cu ft/ac                   |
| 112:<br>Lucky Star-----     | quaking aspen-----             | 77            | 45                         |
| 113:<br>Crandall-----       | ---                            | ---           | ---                        |
| Lucky Star-----             | quaking aspen-----             | 77            | 45                         |
| Starley Family-----         | ---                            | ---           | ---                        |
| 114:<br>Crandall-----       | ---                            | ---           | ---                        |
| Starley Family-----         | ---                            | ---           | ---                        |
| Rock outcrop-----           | ---                            | ---           | ---                        |
| 115:<br>Dastrup-----        | ---                            | ---           | ---                        |
| 116:<br>Dastrup-----        | ---                            | ---           | ---                        |
| 117:<br>Dastrup-----        | ---                            | ---           | ---                        |
| 118:<br>Dromedary-----      | Douglas fir<br>(obsolete)----- | 65            | 35                         |
| Rock outcrop-----           | ---                            | ---           | ---                        |
| 119:<br>Duchesne-----       | lodgepole pine-----            | 40            | 40                         |
| 120:<br>Duchesne-----       | lodgepole pine-----            | 40            | 40                         |
| 121:<br>Duchesne-----       | lodgepole pine-----            | 40            | 40                         |
| 122:<br>Duchesne-----       | lodgepole pine-----            | 40            | 40                         |
| Haydenfork-----             | Engelmann's spruce--           | 40            | 29                         |
| 123:<br>Dumps, mines-----   | ---                            | ---           | ---                        |
| 124:<br>Dunford-----        | ---                            | ---           | ---                        |
| Ayoub-----                  | ---                            | ---           | ---                        |
| Melling-----                | ---                            | ---           | ---                        |
| 125:<br>Dunford-----        | ---                            | ---           | ---                        |
| Ayoub-----                  | ---                            | ---           | ---                        |



Table 8.--Forest productivity--continued

| Map symbol and<br>soil name | Potential productivity |               |                            |
|-----------------------------|------------------------|---------------|----------------------------|
|                             | Common trees           | Site<br>index | Volume<br>of wood<br>fiber |
|                             |                        |               | cu ft/ac                   |
| 125:<br>Melling-----        | ---                    | ---           | ---                        |
| 126:<br>Echocreek-----      | ---                    | ---           | ---                        |
| 127:<br>Echocreek-----      | ---                    | ---           | ---                        |
| Kovich-----                 | ---                    | ---           | ---                        |
| 128:<br>Fewkes-----         | ---                    | ---           | ---                        |
| 129:<br>Fewkes-----         | ---                    | ---           | ---                        |
| 130:<br>Fewkes-----         | ---                    | ---           | ---                        |
| 131:<br>Fewkes-----         | ---                    | ---           | ---                        |
| Heiners-----                | ---                    | ---           | ---                        |
| 132:<br>Fewkes-----         | ---                    | ---           | ---                        |
| Hades-----                  | ---                    | ---           | ---                        |
| 133:<br>Fewkes-----         | ---                    | ---           | ---                        |
| Hades-----                  | ---                    | ---           | ---                        |
| 134:<br>Fewkes-----         | ---                    | ---           | ---                        |
| Yeates Hollow-----          | ---                    | ---           | ---                        |
| 135:<br>Fewkes-----         | ---                    | ---           | ---                        |
| Yeates Hollow-----          | ---                    | ---           | ---                        |
| 136:<br>Hades-----          | ---                    | ---           | ---                        |
| Agassiz-----                | ---                    | ---           | ---                        |
| Rock outcrop-----           | ---                    | ---           | ---                        |
| 137:<br>Hades-----          | ---                    | ---           | ---                        |
| Fewkes-----                 | ---                    | ---           | ---                        |
| 138:<br>Hades-----          | ---                    | ---           | ---                        |
| Fewkes-----                 | ---                    | ---           | ---                        |

Table 8.--Forest productivity--continued

| Map symbol and<br>soil name | Potential productivity |               |                                            |
|-----------------------------|------------------------|---------------|--------------------------------------------|
|                             | Common trees           | Site<br>index | Volume<br>of wood<br>fiber<br><br>cu ft/ac |
| 139:<br>Harter-----         | ---                    | ---           | ---                                        |
| 140:<br>Heiners-----        | ---                    | ---           | ---                                        |
| Fewkes-----                 | ---                    | ---           | ---                                        |
| 141:<br>Heiners-----        | ---                    | ---           | ---                                        |
| Fewkes-----                 | ---                    | ---           | ---                                        |
| Hades-----                  | ---                    | ---           | ---                                        |
| 142:<br>Henefer-----        | ---                    | ---           | ---                                        |
| Harter-----                 | ---                    | ---           | ---                                        |
| 143:<br>Horrocks-----       | ---                    | ---           | ---                                        |
| Agassiz-----                | ---                    | ---           | ---                                        |
| 144:<br>Horrocks-----       | ---                    | ---           | ---                                        |
| Cutoff-----                 | ---                    | ---           | ---                                        |
| 145:<br>Horrocks-----       | ---                    | ---           | ---                                        |
| Cutoff-----                 | ---                    | ---           | ---                                        |
| 146:<br>Horrocks-----       | ---                    | ---           | ---                                        |
| Hades-----                  | ---                    | ---           | ---                                        |
| 147:<br>Hovarka-----        | ---                    | ---           | ---                                        |
| Millcreek-----              | ---                    | ---           | ---                                        |
| 148:<br>Jana-----           | Utah juniper-----      | 40            | 12                                         |
| Richsum-----                | ---                    | ---           | ---                                        |
| Rock outcrop-----           | ---                    | ---           | ---                                        |
| 149:<br>Kovich-----         | ---                    | ---           | ---                                        |
| Toddspan-----               | ---                    | ---           | ---                                        |
| 150:<br>Lucky Star-----     | quaking aspen-----     | 77            | 45                                         |

Table 8.--Forest productivity--continued

| Map symbol and<br>soil name | Potential productivity         |               |                            |
|-----------------------------|--------------------------------|---------------|----------------------------|
|                             | Common trees                   | Site<br>index | Volume<br>of wood<br>fiber |
|                             |                                |               | <u>cu ft/ac</u>            |
| 151:<br>Lucky Star-----     | quaking aspen-----             | 77            | 45                         |
| 152:<br>Lucky Star-----     | quaking aspen-----             | 75            | 45                         |
| Dromedary-----              | Douglas fir<br>(obsolete)----- | 65            | 35                         |
| 153:<br>Lucky Star-----     | quaking aspen-----             | 70            | 45                         |
| Fewkes-----                 | ---                            | ---           | ---                        |
| 154:<br>Manila-----         | ---                            | ---           | ---                        |
| Ant Flat-----               | ---                            | ---           | ---                        |
| 155:<br>Manila-----         | ---                            | ---           | ---                        |
| Ant Flat-----               | ---                            | ---           | ---                        |
| 156:<br>Manila-----         | ---                            | ---           | ---                        |
| Harter-----                 | ---                            | ---           | ---                        |
| 157:<br>Manila-----         | ---                            | ---           | ---                        |
| Henefer-----                | ---                            | ---           | ---                        |
| 158:<br>Melling-----        | ---                            | ---           | ---                        |
| Ayoub-----                  | ---                            | ---           | ---                        |
| Rock outcrop-----           | ---                            | ---           | ---                        |
| 159:<br>Parkcity-----       | quaking aspen-----             | 75            | 43                         |
| Dromedary-----              | Douglas fir<br>(obsolete)----- | 65            | 35                         |
| 160:<br>Parkcity-----       | quaking aspen-----             | 75            | 43                         |
| Dromedary-----              | Douglas fir<br>(obsolete)----- | 65            | 35                         |
| 161:<br>Pits-----           | ---                            | ---           | ---                        |
| 162:<br>Richsum-----        | ---                            | ---           | ---                        |
| Heiners-----                | ---                            | ---           | ---                        |

Table 8.--Forest productivity--continued

| Map symbol and<br>soil name | Potential productivity                     |               |                            |
|-----------------------------|--------------------------------------------|---------------|----------------------------|
|                             | Common trees                               | Site<br>index | Volume<br>of wood<br>fiber |
|                             |                                            |               | cu ft/ac                   |
| 163:                        |                                            |               |                            |
| Richsum-----                | ---                                        | ---           | ---                        |
| Heiners-----                | ---                                        | ---           | ---                        |
| 164:                        |                                            |               |                            |
| Rock outcrop-----           | ---                                        | ---           | ---                        |
| Agassiz-----                | ---                                        | ---           | ---                        |
| Starley Family-----         | ---                                        | ---           | ---                        |
| Hades-----                  | ---                                        | ---           | ---                        |
| Parkcity-----               | quaking aspen-----                         | 75            | 43                         |
| 165:                        |                                            |               |                            |
| Rock outcrop-----           | ---                                        | ---           | ---                        |
| Starley Family-----         | ---                                        | ---           | ---                        |
| 166:                        |                                            |               |                            |
| Sessions-----               | ---                                        | ---           | ---                        |
| Haydenfork-----             | ---                                        | ---           | ---                        |
| 167:                        |                                            |               |                            |
| Sessions-----               | ---                                        | ---           | ---                        |
| Skutum-----                 | quaking aspen-----                         | 75            | 43                         |
| 168:                        |                                            |               |                            |
| Sessions-----               | ---                                        | ---           | ---                        |
| Uinta-----                  | Engelmann's spruce--<br>subalpine fir----- | 40<br>40      | 29<br>29                   |
| 169:                        |                                            |               |                            |
| Skutum-----                 | quaking aspen-----                         | 75            | 43                         |
| 170:                        |                                            |               |                            |
| Skutum-----                 | quaking aspen-----                         | 75            | 43                         |
| 171:                        |                                            |               |                            |
| Skutum-----                 | quaking aspen-----                         | 75            | 43                         |
| 172:                        |                                            |               |                            |
| Skutum-----                 | quaking aspen-----                         | 75            | 43                         |
| Uinta-----                  | Engelmann's spruce--<br>subalpine fir----- | 40<br>40      | 29<br>29                   |
| 173:                        |                                            |               |                            |
| Skutum-----                 | quaking aspen-----                         | 75            | 43                         |
| Uinta-----                  | Engelmann's spruce--<br>subalpine fir----- | 40<br>40      | 29<br>29                   |
| 174:                        |                                            |               |                            |
| Snyderville-----            | ---                                        | ---           | ---                        |

Table 8.--Forest productivity--continued

| Map symbol and<br>soil name | Potential productivity |               |                            |
|-----------------------------|------------------------|---------------|----------------------------|
|                             | Common trees           | Site<br>index | Volume<br>of wood<br>fiber |
|                             |                        |               | <u>cu ft/ac</u>            |
| 175:<br>Snyderville-----    | ---                    | ---           | ---                        |
| 176:<br>Snyderville-----    | ---                    | ---           | ---                        |
| 177:<br>Uinta-----          | Engelmann's spruce--   | 40            | 29                         |
|                             | subalpine fir-----     | 40            | 29                         |
| Duchesne-----               | lodgepole pine-----    | 40            | 29                         |
| 178:<br>Wanship-----        | ---                    | ---           | ---                        |
| 179:<br>Wanship-----        | ---                    | ---           | ---                        |
| Kovich-----                 | ---                    | ---           | ---                        |
| 180:<br>Yeates Hollow-----  | ---                    | ---           | ---                        |
| Henefer-----                | ---                    | ---           | ---                        |
| 181:<br>Yeates Hollow-----  | ---                    | ---           | ---                        |
| Henefer-----                | ---                    | ---           | ---                        |
| 182:<br>Yeates Hollow-----  | ---                    | ---           | ---                        |
| Henefer-----                | ---                    | ---           | ---                        |
| 183:<br>Water-----          | ---                    | ---           | ---                        |
| 184:<br>Dams-----           | ---                    | ---           | ---                        |



Table 9A.--Recreation

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                              |                      | Picnic areas                                                            |                      | Playgrounds                                                                               |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                                     | Value                        |
| 101:<br>Agassiz-----        | 60                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.42 | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.42 | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock<br>Gravel content | 1.00<br>1.00<br>1.00<br>0.71 |
| Rock outcrop-----           | 25                        | Not rated                                                               |                      | Not rated                                                               |                      | Not rated                                                                                 |                              |
| 102:<br>Ant Flat-----       | 85                        | Somewhat limited<br>Restricted<br>permeability                          | 0.41                 | Somewhat limited<br>Restricted<br>permeability                          | 0.41                 | Somewhat limited<br>Slope<br>Restricted<br>permeability                                   | 0.77<br>0.41                 |
| 103:<br>Ant Flat-----       | 85                        | Somewhat limited<br>Slope<br>Restricted<br>permeability                 | 0.63<br>0.41         | Somewhat limited<br>Slope<br>Restricted<br>permeability                 | 0.63<br>0.41         | Very limited<br>Slope<br>Restricted<br>permeability                                       | 1.00<br>0.41                 |
| 104:<br>Ant Flat-----       | 90                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>0.41         | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>0.41         | Very limited<br>Slope<br>Restricted<br>permeability                                       | 1.00<br>0.41                 |
| 105:<br>Ant Flat-----       | 40                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>0.41         | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>0.41         | Very limited<br>Slope<br>Restricted<br>permeability                                       | 1.00<br>0.41                 |
| Henefer-----                | 30                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Gravel content   | 1.00<br>0.41<br>0.25 | Very limited<br>Slope<br>Restricted<br>permeability<br>Gravel content   | 1.00<br>0.41<br>0.25 | Very limited<br>Slope<br>Gravel content<br>Restricted<br>permeability                     | 1.00<br>1.00<br>0.41         |
| Skutum-----                 | 20                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>0.96         | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>0.96         | Very limited<br>Slope<br>Restricted<br>permeability                                       | 1.00<br>0.96                 |
| 106:<br>Ayoub-----          | 85                        | Somewhat limited<br>Slope<br>Content of large<br>stones                 | 0.04<br>0.01         | Somewhat limited<br>Slope<br>Content of large<br>stones                 | 0.04<br>0.01         | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Depth to bedrock | 1.00<br>0.99<br>0.17<br>0.10 |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                              |                      | Picnic areas                                                            |                      | Playgrounds                                                                               |                                  |
|-----------------------------|---------------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                                     | Value                            |
| 107:<br>Ayoub-----          | 45                        | Very limited<br>Slope<br>Content of large<br>stones                     | 1.00<br><br>0.01     | Very limited<br>Slope<br>Content of large<br>stones                     | 1.00<br><br>0.01     | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Depth to bedrock | 1.00<br><br>0.99<br>0.17<br>0.10 |
| Dunford-----                | 20                        | Very limited<br>Slope                                                   | 1.00                 | Very limited<br>Slope                                                   | 1.00                 | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Depth to bedrock | 1.00<br>0.84<br>0.26<br>0.06     |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.61 | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.61 | Very limited<br>Content of large<br>stones<br>Slope<br>Depth to bedrock<br>Gravel content | 1.00<br><br>1.00<br>1.00<br>1.00 |
| 108:<br>Ayoub-----          | 45                        | Very limited<br>Slope<br>Content of large<br>stones                     | 1.00<br><br>0.01     | Very limited<br>Slope<br>Content of large<br>stones                     | 1.00<br><br>0.01     | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Depth to bedrock | 1.00<br><br>0.99<br>0.17<br>0.10 |
| Dunford-----                | 20                        | Very limited<br>Slope                                                   | 1.00                 | Very limited<br>Slope                                                   | 1.00                 | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Depth to bedrock | 1.00<br>0.84<br>0.26<br>0.06     |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.61 | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.61 | Very limited<br>Content of large<br>stones<br>Slope<br>Depth to bedrock<br>Gravel content | 1.00<br><br>1.00<br>1.00<br>1.00 |
| 109:<br>Cluff-----          | 85                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br><br>0.21     | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br><br>0.21     | Very limited<br>Slope<br>Restricted<br>permeability                                       | 1.00<br><br>0.21                 |
| 110:<br>Cluff-----          | 85                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br><br>0.21     | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br><br>0.21     | Very limited<br>Slope<br>Restricted<br>permeability                                       | 1.00<br><br>0.21                 |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                                        |                      | Picnic areas                                                                      |                      | Playgrounds                                                                                         |                              |
|-----------------------------|---------------------------|-----------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                             | Value                | Rating class and<br>limiting features                                             | Value                | Rating class and<br>limiting features                                                               | Value                        |
| 111:<br>Crandall-----       | 90                        | Somewhat limited<br>Dusty<br>Gravel content                                       | 0.50<br>0.16         | Somewhat limited<br>Dusty<br>Gravel content                                       | 0.50<br>0.16         | Very limited<br>Gravel content<br>Slope<br>Dusty<br>Content of large<br>stones                      | 1.00<br>0.77<br>0.50<br>0.03 |
| 112:<br>Crandall-----       | 55                        | Very limited<br>Slope<br>Dusty<br>Gravel content                                  | 1.00<br>0.50<br>0.16 | Very limited<br>Slope<br>Dusty<br>Gravel content                                  | 1.00<br>0.50<br>0.16 | Very limited<br>Gravel content<br>Slope<br>Dusty<br>Content of large<br>stones                      | 1.00<br>1.00<br>0.50<br>0.03 |
| Lucky Star-----             | 30                        | Very limited<br>Slope<br>Gravel content                                           | 1.00<br>0.22         | Very limited<br>Slope<br>Gravel content                                           | 1.00<br>0.22         | Very limited<br>Gravel content<br>Slope<br>Content of large<br>stones                               | 1.00<br>1.00<br>0.01         |
| 113:<br>Crandall-----       | 50                        | Very limited<br>Slope<br>Dusty<br>Gravel content                                  | 1.00<br>0.50<br>0.16 | Very limited<br>Slope<br>Dusty<br>Gravel content                                  | 1.00<br>0.50<br>0.16 | Very limited<br>Slope<br>Gravel content<br>Dusty<br>Content of large<br>stones                      | 1.00<br>1.00<br>0.50<br>0.03 |
| Lucky Star-----             | 20                        | Very limited<br>Slope<br>Gravel content                                           | 1.00<br>0.22         | Very limited<br>Slope<br>Gravel content                                           | 1.00<br>0.22         | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones                               | 1.00<br>1.00<br>0.01         |
| Starley Family-----         | 15                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones | 1.00<br>1.00<br>0.20 | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones | 1.00<br>1.00<br>0.20 | Very limited<br>Restricted<br>permeability<br>Slope<br>Content of large<br>stones<br>Gravel content | 1.00<br>1.00<br>1.00<br>0.83 |
| 114:<br>Crandall-----       | 50                        | Very limited<br>Slope<br>Dusty<br>Gravel content                                  | 1.00<br>0.50<br>0.16 | Very limited<br>Slope<br>Dusty<br>Gravel content                                  | 1.00<br>0.50<br>0.16 | Very limited<br>Gravel content<br>Slope<br>Dusty<br>Content of large<br>stones                      | 1.00<br>1.00<br>0.50<br>0.03 |
| Starley Family-----         | 30                        | Very limited<br>Restricted<br>permeability<br>Slope<br>Content of large<br>stones | 1.00<br>1.00<br>0.20 | Very limited<br>Restricted<br>permeability<br>Slope<br>Content of large<br>stones | 1.00<br>1.00<br>0.20 | Very limited<br>Restricted<br>permeability<br>Slope<br>Content of large<br>stones<br>Gravel content | 1.00<br>1.00<br>1.00<br>0.83 |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                                          |                      | Picnic areas                                                                        |                      | Playgrounds                                                                                  |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                               | Value                | Rating class and<br>limiting features                                               | Value                | Rating class and<br>limiting features                                                        | Value                        |
| 114:<br>Rock outcrop-----   | 10                        | Not rated                                                                           |                      | Not rated                                                                           |                      | Not rated                                                                                    |                              |
| 115:<br>Dastrup-----        | 90                        | Not limited                                                                         |                      | Not limited                                                                         |                      | Somewhat limited<br>Slope                                                                    | 0.48                         |
| 116:<br>Dastrup-----        | 85                        | Somewhat limited<br>Slope                                                           | 0.16                 | Somewhat limited<br>Slope                                                           | 0.16                 | Very limited<br>Slope                                                                        | 1.00                         |
| 117:<br>Dastrup-----        | 85                        | Very limited<br>Slope                                                               | 1.00                 | Very limited<br>Slope                                                               | 1.00                 | Very limited<br>Slope                                                                        | 1.00                         |
| 118:<br>Dromedary-----      | 70                        | Very limited<br>Slope<br>Gravel content                                             | 1.00<br>0.02         | Very limited<br>Slope<br>Gravel content                                             | 1.00<br>0.02         | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones                        | 1.00<br>1.00<br>0.03         |
| Rock outcrop-----           | 15                        | Not rated                                                                           |                      | Not rated                                                                           |                      | Not rated                                                                                    |                              |
| 119:<br>Duchesne-----       | 85                        | Somewhat limited<br>Content of large<br>stones<br>Slope                             | 0.18<br>0.16         | Somewhat limited<br>Content of large<br>stones<br>Slope                             | 0.18<br>0.16         | Very limited<br>Content of large<br>stones<br>Slope<br>Gravel content                        | 1.00<br>1.00<br>0.86         |
| 120:<br>Duchesne-----       | 85                        | Very limited<br>Slope<br>Content of large<br>stones                                 | 1.00<br>0.18         | Very limited<br>Slope<br>Content of large<br>stones                                 | 1.00<br>0.18         | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content                        | 1.00<br>1.00<br>0.86         |
| 121:<br>Duchesne-----       | 85                        | Very limited<br>Slope<br>Content of large<br>stones                                 | 1.00<br>0.18         | Very limited<br>Slope<br>Content of large<br>stones                                 | 1.00<br>0.18         | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content                        | 1.00<br>1.00<br>0.86         |
| 122:<br>Duchesne-----       | 60                        | Very limited<br>Slope<br>Content of large<br>stones                                 | 1.00<br>0.18         | Very limited<br>Slope<br>Content of large<br>stones                                 | 1.00<br>0.18         | Very limited<br>Content of large<br>stones<br>Slope<br>Gravel content                        | 1.00<br>1.00<br>0.86         |
| Haydenfork-----             | 25                        | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Restricted<br>permeability | 1.00<br>1.00<br>0.21 | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Restricted<br>permeability | 1.00<br>0.95<br>0.21 | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Restricted<br>permeability<br>Slope | 1.00<br>1.00<br>0.21<br>0.05 |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                              |                      | Picnic areas                                                            |                      | Playgrounds                                                                               |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                                     | Value                        |
| 123:<br>Dumps, Mines-----   | 100                       | Not rated                                                               |                      | Not rated                                                               |                      | Not rated                                                                                 |                              |
| 124:<br>Dunford-----        | 45                        | Very limited<br>Slope                                                   | 1.00                 | Very limited<br>Slope                                                   | 1.00                 | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Depth to bedrock | 1.00<br>0.84<br>0.26<br>0.06 |
| Ayoub-----                  | 20                        | Very limited<br>Slope<br>Content of large<br>stones                     | 1.00<br>0.01         | Very limited<br>Slope<br>Content of large<br>stones                     | 1.00<br>0.01         | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Depth to bedrock | 1.00<br>0.99<br>0.17<br>0.10 |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.61 | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.61 | Very limited<br>Content of large<br>stones<br>Slope<br>Depth to bedrock<br>Gravel content | 1.00<br>1.00<br>1.00<br>1.00 |
| 125:<br>Dunford-----        | 45                        | Very limited<br>Slope                                                   | 1.00                 | Very limited<br>Slope                                                   | 1.00                 | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Depth to bedrock | 1.00<br>0.84<br>0.26<br>0.06 |
| Ayoub-----                  | 20                        | Very limited<br>Slope<br>Content of large<br>stones                     | 1.00<br>0.01         | Very limited<br>Slope<br>Content of large<br>stones                     | 1.00<br>0.01         | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Depth to bedrock | 1.00<br>0.99<br>0.17<br>0.10 |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.61 | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.61 | Very limited<br>Content of large<br>stones<br>Slope<br>Depth to bedrock<br>Gravel content | 1.00<br>1.00<br>1.00<br>1.00 |
| 126:<br>Echocreek-----      | 85                        | Not limited                                                             |                      | Not limited                                                             |                      | Somewhat limited<br>Slope                                                                 | 0.77                         |
| 127:<br>Echocreek-----      | 65                        | Not limited                                                             |                      | Not limited                                                             |                      | Somewhat limited<br>Slope                                                                 | 0.94                         |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                                           |                      | Picnic areas                                                                 |                      | Playgrounds                                                                                                                     |                                      |
|-----------------------------|---------------------------|--------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                | Value                | Rating class and<br>limiting features                                        | Value                | Rating class and<br>limiting features                                                                                           | Value                                |
| 127:<br>Kovich-----         | 20                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Restricted<br>permeability | 1.00<br>1.00<br>0.21 | Somewhat limited<br>Depth to<br>saturated zone<br>Restricted<br>permeability | 0.75<br>0.21         | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding<br>Restricted<br>permeability<br>Slope<br>Content of large<br>stones | 1.00<br>0.60<br>0.21<br>0.05<br>0.01 |
| 128:<br>Fewkes-----         | 85                        | Somewhat limited<br>Gravel content                                                   | 0.25                 | Somewhat limited<br>Gravel content                                           | 0.25                 | Very limited<br>Gravel content<br>Slope                                                                                         | 1.00<br>0.77                         |
| 129:<br>Fewkes-----         | 85                        | Somewhat limited<br>Slope<br>Gravel content                                          | 0.63<br>0.25         | Somewhat limited<br>Slope<br>Gravel content                                  | 0.63<br>0.25         | Very limited<br>Slope<br>Gravel content                                                                                         | 1.00<br>1.00                         |
| 130:<br>Fewkes-----         | 85                        | Very limited<br>Slope<br>Gravel content                                              | 1.00<br>0.25         | Very limited<br>Slope<br>Gravel content                                      | 1.00<br>0.25         | Very limited<br>Slope<br>Gravel content                                                                                         | 1.00<br>1.00                         |
| 131:<br>Fewkes-----         | 60                        | Very limited<br>Slope<br>Gravel content                                              | 1.00<br>0.25         | Very limited<br>Slope<br>Gravel content                                      | 1.00<br>0.25         | Very limited<br>Slope<br>Gravel content                                                                                         | 1.00<br>1.00                         |
| Heiners-----                | 25                        | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content                          | 1.00<br>1.00<br>0.22 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content                  | 1.00<br>1.00<br>0.22 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content<br>Content of large<br>stones                                       | 1.00<br>1.00<br>1.00<br>1.00<br>0.01 |
| 132:<br>Fewkes-----         | 55                        | Very limited<br>Slope<br>Gravel content                                              | 1.00<br>0.25         | Very limited<br>Slope<br>Gravel content                                      | 1.00<br>0.25         | Very limited<br>Slope<br>Gravel content                                                                                         | 1.00<br>1.00                         |
| Hades-----                  | 30                        | Very limited<br>Slope                                                                | 1.00                 | Very limited<br>Slope                                                        | 1.00                 | Very limited<br>Slope                                                                                                           | 1.00                                 |
| 133:<br>Fewkes-----         | 55                        | Very limited<br>Slope<br>Gravel content                                              | 1.00<br>0.25         | Very limited<br>Slope<br>Gravel content                                      | 1.00<br>0.25         | Very limited<br>Slope<br>Gravel content                                                                                         | 1.00<br>1.00                         |
| Hades-----                  | 30                        | Very limited<br>Slope                                                                | 1.00                 | Very limited<br>Slope                                                        | 1.00                 | Very limited<br>Slope                                                                                                           | 1.00                                 |
| 134:<br>Fewkes-----         | 55                        | Somewhat limited<br>Gravel content<br>Slope                                          | 0.25<br>0.16         | Somewhat limited<br>Gravel content<br>Slope                                  | 0.25<br>0.16         | Very limited<br>Gravel content<br>Slope                                                                                         | 1.00<br>1.00                         |



Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                                            |                              | Picnic areas                                                                          |                              | Playgrounds                                                                                         |                                  |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                                                 | Value                        | Rating class and<br>limiting features                                                 | Value                        | Rating class and<br>limiting features                                                               | Value                            |
| 134:<br>Yeates Hollow-----  | 30                        | Somewhat limited<br>Restricted<br>permeability<br>Content of large<br>stones<br>Slope | 0.41<br><br>0.35<br><br>0.04 | Somewhat limited<br>Restricted<br>permeability<br>Content of large<br>stones<br>Slope | 0.41<br><br>0.35<br><br>0.04 | Very limited<br>Content of large<br>stones<br>Slope<br>Gravel content<br>Restricted<br>permeability | 1.00<br><br>1.00<br>0.67<br>0.41 |
| 135:<br>Fewkes-----         | 55                        | Very limited<br>Slope<br>Gravel content                                               | 1.00<br><br>0.25             | Very limited<br>Slope<br>Gravel content                                               | 1.00<br><br>0.25             | Very limited<br>Slope<br>Gravel content                                                             | 1.00<br><br>1.00                 |
| Yeates Hollow-----          | 30                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones     | 1.00<br><br>0.41<br><br>0.35 | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones     | 1.00<br><br>0.41<br><br>0.35 | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Restricted<br>permeability | 1.00<br><br>1.00<br>0.67<br>0.41 |
| 136:<br>Hades-----          | 50                        | Very limited<br>Slope                                                                 | 1.00                         | Very limited<br>Slope                                                                 | 1.00                         | Very limited<br>Slope                                                                               | 1.00                             |
| Agassiz-----                | 30                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones               | 1.00<br>1.00<br>0.42         | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones               | 1.00<br>1.00<br>0.42         | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones<br>Gravel content           | 1.00<br>1.00<br>1.00<br>0.71     |
| Rock outcrop-----           | 10                        | Not rated                                                                             |                              | Not rated                                                                             |                              | Not rated                                                                                           |                                  |
| 137:<br>Hades-----          | 55                        | Very limited<br>Slope                                                                 | 1.00                         | Very limited<br>Slope                                                                 | 1.00                         | Very limited<br>Slope                                                                               | 1.00                             |
| Fewkes-----                 | 30                        | Very limited<br>Slope<br>Gravel content                                               | 1.00<br><br>0.25             | Very limited<br>Slope<br>Gravel content                                               | 1.00<br><br>0.25             | Very limited<br>Slope<br>Gravel content                                                             | 1.00<br><br>1.00                 |
| 138:<br>Hades-----          | 55                        | Very limited<br>Slope                                                                 | 1.00                         | Very limited<br>Slope                                                                 | 1.00                         | Very limited<br>Slope                                                                               | 1.00                             |
| Fewkes-----                 | 30                        | Very limited<br>Slope<br>Gravel content                                               | 1.00<br><br>0.25             | Very limited<br>Slope<br>Gravel content                                               | 1.00<br><br>0.25             | Very limited<br>Slope<br>Gravel content                                                             | 1.00<br><br>1.00                 |
| 139:<br>Harter-----         | 85                        | Somewhat limited<br>Restricted<br>permeability<br>Gravel content                      | 0.41<br><br>0.25             | Somewhat limited<br>Restricted<br>permeability<br>Gravel content                      | 0.41<br><br>0.25             | Very limited<br>Gravel content<br>Slope<br>Restricted<br>permeability                               | 1.00<br>1.00<br>0.41             |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                              |                      | Picnic areas                                                            |                      | Playgrounds                                                                               |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                                     | Value                        |
| 140:<br>Heiners-----        | 60                        | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content             | 1.00<br>1.00<br>0.22 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content             | 1.00<br>1.00<br>0.22 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>0.01 |
| Fewkes-----                 | 25                        | Very limited<br>Slope<br>Gravel content                                 | 1.00<br>0.25         | Very limited<br>Slope<br>Gravel content                                 | 1.00<br>0.25         | Very limited<br>Slope<br>Gravel content                                                   | 1.00<br>1.00                 |
| 141:<br>Heiners-----        | 35                        | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content             | 1.00<br>1.00<br>0.22 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content             | 1.00<br>1.00<br>0.22 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>0.01 |
| Fewkes-----                 | 25                        | Very limited<br>Slope<br>Gravel content                                 | 1.00<br>0.25         | Very limited<br>Slope<br>Gravel content                                 | 1.00<br>0.25         | Very limited<br>Slope<br>Gravel content                                                   | 1.00<br>1.00                 |
| Hades-----                  | 25                        | Very limited<br>Slope                                                   | 1.00                 | Very limited<br>Slope                                                   | 1.00                 | Very limited<br>Slope                                                                     | 1.00                         |
| 142:<br>Henefer-----        | 45                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Gravel content   | 1.00<br>0.41<br>0.25 | Very limited<br>Slope<br>Restricted<br>permeability<br>Gravel content   | 1.00<br>0.41<br>0.25 | Very limited<br>Slope<br>Gravel content<br>Restricted<br>permeability                     | 1.00<br>1.00<br>0.41         |
| Harter-----                 | 40                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Gravel content   | 1.00<br>0.41<br>0.25 | Very limited<br>Slope<br>Restricted<br>permeability<br>Gravel content   | 1.00<br>0.41<br>0.25 | Very limited<br>Slope<br>Gravel content<br>Restricted<br>permeability                     | 1.00<br>1.00<br>0.41         |
| 143:<br>Horrocks-----       | 65                        | Very limited<br>Slope<br>Content of large<br>stones                     | 1.00<br>0.14         | Very limited<br>Slope<br>Content of large<br>stones                     | 1.00<br>0.14         | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content                     | 1.00<br>1.00<br>1.00         |
| Agassiz-----                | 20                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.42 | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.42 | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones<br>Gravel content | 1.00<br>1.00<br>1.00<br>0.71 |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                  |                      | Picnic areas                                                |                      | Playgrounds                                                                               |                                  |
|-----------------------------|---------------------------|-------------------------------------------------------------|----------------------|-------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                       | Value                | Rating class and<br>limiting features                       | Value                | Rating class and<br>limiting features                                                     | Value                            |
| 144:<br>Horrocks-----       | 60                        | Very limited<br>Slope<br>Content of large<br>stones         | 1.00<br><br>0.14     | Very limited<br>Slope<br>Content of large<br>stones         | 1.00<br><br>0.14     | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content                     | 1.00<br><br>1.00<br>1.00         |
| Cutoff-----                 | 25                        | Very limited<br>Slope<br>Gravel content                     | 1.00<br><br>0.98     | Very limited<br>Slope<br>Gravel content                     | 1.00<br><br>0.98     | Very limited<br>Gravel content<br>Slope<br>Content of large<br>stones<br>Depth to bedrock | 1.00<br><br>1.00<br>0.20<br>0.01 |
| 145:<br>Horrocks-----       | 60                        | Very limited<br>Slope<br>Content of large<br>stones         | 1.00<br><br>0.14     | Very limited<br>Slope<br>Content of large<br>stones         | 1.00<br><br>0.14     | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content                     | 1.00<br><br>1.00<br>1.00         |
| Cutoff-----                 | 25                        | Very limited<br>Slope<br>Gravel content                     | 1.00<br><br>0.98     | Very limited<br>Slope<br>Gravel content                     | 1.00<br><br>0.98     | Very limited<br>Gravel content<br>Slope<br>Content of large<br>stones<br>Depth to bedrock | 1.00<br><br>1.00<br>0.20<br>0.01 |
| 146:<br>Horrocks-----       | 65                        | Very limited<br>Slope<br>Content of large<br>stones         | 1.00<br><br>0.14     | Very limited<br>Slope<br>Content of large<br>stones         | 1.00<br><br>0.14     | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content                     | 1.00<br><br>1.00<br>1.00         |
| Hades-----                  | 20                        | Very limited<br>Slope                                       | 1.00                 | Very limited<br>Slope                                       | 1.00                 | Very limited<br>Slope                                                                     | 1.00                             |
| 147:<br>Hovarka-----        | 45                        | Very limited<br>Flooding<br>Depth to<br>saturated zone      | 1.00<br>1.00<br>1.00 | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding  | 0.95<br><br>0.40     | Very limited<br>Flooding<br>Depth to<br>saturated zone                                    | 1.00<br>1.00                     |
| Millcreek-----              | 40                        | Very limited<br>Flooding                                    | 1.00                 | Not limited                                                 |                      | Somewhat limited<br>Slope<br>Content of large<br>stones                                   | 0.05<br>0.01                     |
| 148:<br>Jana-----           | 50                        | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content | 1.00<br>1.00<br>0.96 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content | 1.00<br>1.00<br>0.96 | Very limited<br>Gravel content<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>0.32     |
| Richsum-----                | 30                        | Very limited<br>Slope                                       | 1.00                 | Very limited<br>Slope                                       | 1.00                 | Very limited<br>Slope                                                                     | 1.00                             |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                                           |                      | Picnic areas                                                                 |              | Playgrounds                                                                                                                     |                                      |
|-----------------------------|---------------------------|--------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                | Value                | Rating class and<br>limiting features                                        | Value        | Rating class and<br>limiting features                                                                                           | Value                                |
| 148:<br>Rock outcrop-----   | 10                        | Not rated                                                                            |                      | Not rated                                                                    |              | Not rated                                                                                                                       |                                      |
| 149:<br>Kovich-----         | 45                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Restricted<br>permeability | 1.00<br>1.00<br>0.21 | Somewhat limited<br>Depth to<br>saturated zone<br>Restricted<br>permeability | 0.75<br>0.21 | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding<br>Restricted<br>permeability<br>Slope<br>Content of large<br>stones | 1.00<br>0.60<br>0.21<br>0.05<br>0.01 |
| Toddspan-----               | 40                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Restricted<br>permeability | 1.00<br>1.00<br>0.21 | Somewhat limited<br>Depth to<br>saturated zone<br>Restricted<br>permeability | 0.95<br>0.21 | Very limited<br>Depth to<br>saturated zone<br>Flooding<br>Restricted<br>permeability<br>Slope<br>Content of large<br>stones     | 1.00<br>0.60<br>0.21<br>0.05<br>0.01 |
| 150:<br>Lucky Star-----     | 85                        | Very limited<br>Slope<br>Gravel content                                              | 1.00<br>0.22         | Very limited<br>Slope<br>Gravel content                                      | 1.00<br>0.22 | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones                                                           | 1.00<br>1.00<br>0.01                 |
| 151:<br>Lucky Star-----     | 85                        | Very limited<br>Slope<br>Gravel content                                              | 1.00<br>0.22         | Very limited<br>Slope<br>Gravel content                                      | 1.00<br>0.22 | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones                                                           | 1.00<br>1.00<br>0.01                 |
| 152:<br>Lucky Star-----     | 55                        | Very limited<br>Slope<br>Gravel content                                              | 1.00<br>0.22         | Very limited<br>Slope<br>Gravel content                                      | 1.00<br>0.22 | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones                                                           | 1.00<br>1.00<br>0.01                 |
| Dromedary-----              | 30                        | Very limited<br>Slope<br>Gravel content                                              | 1.00<br>0.02         | Very limited<br>Slope<br>Gravel content                                      | 1.00<br>0.02 | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones                                                           | 1.00<br>1.00<br>0.03                 |
| 153:<br>Lucky Star-----     | 55                        | Very limited<br>Slope<br>Gravel content                                              | 1.00<br>0.22         | Very limited<br>Slope<br>Gravel content                                      | 1.00<br>0.22 | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones                                                           | 1.00<br>1.00<br>0.01                 |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                                |                              | Picnic areas                                                              |                              | Playgrounds                                                                               |                                          |
|-----------------------------|---------------------------|---------------------------------------------------------------------------|------------------------------|---------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------|
|                             |                           | Rating class and<br>limiting features                                     | Value                        | Rating class and<br>limiting features                                     | Value                        | Rating class and<br>limiting features                                                     | Value                                    |
| 153:<br>Fewkes-----         | 30                        | Very limited<br>Slope<br>Gravel content                                   | 1.00<br><br>0.25             | Very limited<br>Slope<br>Gravel content                                   | 1.00<br><br>0.25             | Very limited<br>Slope<br>Gravel content                                                   | 1.00<br><br>1.00                         |
| 154:<br>Manila-----         | 50                        | Somewhat limited<br>Slope<br>Restricted<br>permeability                   | 0.63<br><br>0.41             | Somewhat limited<br>Slope<br>Restricted<br>permeability                   | 0.63<br><br>0.41             | Very limited<br>Slope<br>Restricted<br>permeability                                       | 1.00<br><br>0.41                         |
| Ant Flat-----               | 35                        | Somewhat limited<br>Restricted<br>permeability                            | 0.41                         | Somewhat limited<br>Restricted<br>permeability                            | 0.41                         | Somewhat limited<br>Slope<br>Restricted<br>permeability                                   | 0.77<br><br>0.41                         |
| 155:<br>Manila-----         | 50                        | Somewhat limited<br>Slope<br>Restricted<br>permeability                   | 0.63<br><br>0.41             | Somewhat limited<br>Slope<br>Restricted<br>permeability                   | 0.63<br><br>0.41             | Very limited<br>Slope<br>Restricted<br>permeability                                       | 1.00<br><br>0.41                         |
| Ant Flat-----               | 35                        | Somewhat limited<br>Slope<br>Restricted<br>permeability                   | 0.63<br><br>0.41             | Somewhat limited<br>Slope<br>Restricted<br>permeability                   | 0.63<br><br>0.41             | Very limited<br>Slope<br>Restricted<br>permeability                                       | 1.00<br><br>0.41                         |
| 156:<br>Manila-----         | 50                        | Somewhat limited<br>Restricted<br>permeability                            | 0.41                         | Somewhat limited<br>Restricted<br>permeability                            | 0.41                         | Somewhat limited<br>Slope<br>Restricted<br>permeability                                   | 0.77<br><br>0.41                         |
| Harter-----                 | 40                        | Somewhat limited<br>Restricted<br>permeability<br>Gravel content          | 0.41<br><br>0.25             | Somewhat limited<br>Restricted<br>permeability<br>Gravel content          | 0.41<br><br>0.25             | Very limited<br>Gravel content<br>Slope<br>Restricted<br>permeability                     | 1.00<br><br>0.77<br><br>0.41             |
| 157:<br>Manila-----         | 60                        | Somewhat limited<br>Slope<br>Restricted<br>permeability                   | 0.63<br><br>0.41             | Somewhat limited<br>Slope<br>Restricted<br>permeability                   | 0.63<br><br>0.41             | Very limited<br>Slope<br>Restricted<br>permeability                                       | 1.00<br><br>0.41                         |
| Henefer-----                | 25                        | Somewhat limited<br>Slope<br>Restricted<br>permeability<br>Gravel content | 0.63<br><br>0.41<br><br>0.25 | Somewhat limited<br>Slope<br>Restricted<br>permeability<br>Gravel content | 0.63<br><br>0.41<br><br>0.25 | Very limited<br>Slope<br>Gravel content<br>Restricted<br>permeability                     | 1.00<br><br>1.00<br><br>0.41             |
| 158:<br>Melling-----        | 50                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones   | 1.00<br><br>1.00<br><br>0.61 | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones   | 1.00<br><br>1.00<br><br>0.61 | Very limited<br>Content of large<br>stones<br>Slope<br>Depth to bedrock<br>Gravel content | 1.00<br><br>1.00<br><br>1.00<br><br>1.00 |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                  |                      | Picnic areas                                                |                      | Playgrounds                                                                               |                                  |
|-----------------------------|---------------------------|-------------------------------------------------------------|----------------------|-------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                       | Value                | Rating class and<br>limiting features                       | Value                | Rating class and<br>limiting features                                                     | Value                            |
| 158:<br>Ayoub-----          | 30                        | Very limited<br>Slope<br>Content of large<br>stones         | 1.00<br><br>0.01     | Very limited<br>Slope<br>Content of large<br>stones         | 1.00<br><br>0.01     | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Depth to bedrock | 1.00<br><br>0.99<br>0.17<br>0.10 |
| Rock outcrop-----           | 10                        | Not rated                                                   |                      | Not rated                                                   |                      | Not rated                                                                                 |                                  |
| 159:<br>Parkcity-----       | 70                        | Very limited<br>Slope<br>Gravel content                     | 1.00<br><br>0.22     | Very limited<br>Slope<br>Gravel content                     | 1.00<br><br>0.22     | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones                     | 1.00<br><br>1.00<br>0.01         |
| Dromedary-----              | 20                        | Very limited<br>Slope<br>Gravel content                     | 1.00<br><br>0.02     | Very limited<br>Slope<br>Gravel content                     | 1.00<br><br>0.02     | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones                     | 1.00<br><br>1.00<br>0.03         |
| 160:<br>Parkcity-----       | 70                        | Very limited<br>Slope<br>Gravel content                     | 1.00<br><br>0.22     | Very limited<br>Slope<br>Gravel content                     | 1.00<br><br>0.22     | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones                     | 1.00<br><br>1.00<br>0.01         |
| Dromedary-----              | 20                        | Very limited<br>Slope<br>Gravel content                     | 1.00<br><br>0.02     | Very limited<br>Slope<br>Gravel content                     | 1.00<br><br>0.02     | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones                     | 1.00<br><br>1.00<br>0.03         |
| 161:<br>Pits, Gravel-----   | 100                       | Not rated                                                   |                      | Not rated                                                   |                      | Not rated                                                                                 |                                  |
| 162:<br>Richsum-----        | 70                        | Somewhat limited<br>Slope                                   | 0.16                 | Somewhat limited<br>Slope                                   | 0.16                 | Very limited<br>Slope                                                                     | 1.00                             |
| Heiners-----                | 20                        | Very limited<br>Depth to bedrock<br>Gravel content<br>Slope | 1.00<br>0.22<br>0.16 | Very limited<br>Depth to bedrock<br>Gravel content<br>Slope | 1.00<br>0.22<br>0.16 | Very limited<br>Depth to bedrock<br>Gravel content<br>Slope<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>0.01     |
| 163:<br>Richsum-----        | 60                        | Very limited<br>Slope                                       | 1.00                 | Very limited<br>Slope                                       | 1.00                 | Very limited<br>Slope                                                                     | 1.00                             |



Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                                          |                              | Picnic areas                                                                        |                              | Playgrounds                                                                                         |                                      |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                                               | Value                        | Rating class and<br>limiting features                                               | Value                        | Rating class and<br>limiting features                                                               | Value                                |
| 163:<br>Heiners-----        | 30                        | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content                         | <br>1.00<br>1.00<br>0.22     | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content                         | <br>1.00<br>1.00<br>0.22     | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content<br>Content of large<br>stones           | <br>1.00<br>1.00<br>1.00<br>0.01     |
| 164:<br>Rock outcrop-----   | 90                        | Not rated                                                                           |                              | Not rated                                                                           |                              | Not rated                                                                                           |                                      |
| 165:<br>Rock outcrop-----   | 50                        | Not rated                                                                           |                              | Not rated                                                                           |                              | Not rated                                                                                           |                                      |
| Starley Family-----         | 30                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones   | <br>1.00<br>1.00<br><br>0.20 | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones   | <br>1.00<br>1.00<br><br>0.20 | Very limited<br>Restricted<br>permeability<br>Slope<br>Content of large<br>stones<br>Gravel content | <br>1.00<br><br>1.00<br>1.00<br>0.83 |
| 166:<br>Sessions-----       | 60                        | Somewhat limited<br>Dusty<br>Restricted<br>permeability                             | <br>0.50<br>0.41             | Somewhat limited<br>Dusty<br>Restricted<br>permeability                             | <br>0.50<br>0.41             | Very limited<br>Slope<br>Dusty<br>Restricted<br>permeability<br>Content of large<br>stones          | <br>1.00<br>0.50<br>0.41<br>0.01     |
| Haydenfork-----             | 25                        | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Restricted<br>permeability | <br>1.00<br>1.00<br><br>0.21 | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Restricted<br>permeability | <br>1.00<br>1.00<br><br>0.21 | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Restricted<br>permeability<br>Slope        | <br>1.00<br>1.00<br><br>0.21<br>0.05 |
| 167:<br>Sessions-----       | 55                        | Somewhat limited<br>Dusty<br>Restricted<br>permeability                             | <br>0.50<br>0.41             | Somewhat limited<br>Dusty<br>Restricted<br>permeability                             | <br>0.50<br>0.41             | Very limited<br>Slope<br>Dusty<br>Restricted<br>permeability<br>Content of large<br>stones          | <br>1.00<br>0.50<br>0.41<br>0.01     |
| Skutum-----                 | 30                        | Somewhat limited<br>Restricted<br>permeability                                      | <br>0.96                     | Somewhat limited<br>Restricted<br>permeability                                      | <br>0.96                     | Very limited<br>Slope<br>Restricted<br>permeability                                                 | <br>1.00<br>0.96                     |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                       |                              | Picnic areas                                                     |                              | Playgrounds                                                                                         |                                      |
|-----------------------------|---------------------------|------------------------------------------------------------------|------------------------------|------------------------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                            | Value                        | Rating class and<br>limiting features                            | Value                        | Rating class and<br>limiting features                                                               | Value                                |
| 168:<br>Sessions-----       | 60                        | Somewhat limited<br>Dusty<br>Restricted<br>permeability<br>Slope | <br>0.50<br>0.41<br><br>0.16 | Somewhat limited<br>Dusty<br>Restricted<br>permeability<br>Slope | <br>0.50<br>0.41<br><br>0.16 | Very limited<br>Slope<br>Dusty<br>Restricted<br>permeability<br>Content of large<br>stones          | <br>1.00<br>0.50<br>0.41<br><br>0.01 |
| Uinta-----                  | 25                        | Very limited<br>Slope<br>Restricted<br>permeability              | <br>1.00<br>0.21             | Very limited<br>Slope<br>Restricted<br>permeability              | <br>1.00<br>0.21             | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Restricted<br>permeability | <br>1.00<br>0.84<br><br>0.26<br>0.21 |
| 169:<br>Skutum-----         | 85                        | Somewhat limited<br>Restricted<br>permeability<br>Slope          | <br>0.96<br><br>0.16         | Somewhat limited<br>Restricted<br>permeability<br>Slope          | <br>0.96<br><br>0.16         | Very limited<br>Slope<br>Restricted<br>permeability                                                 | <br>1.00<br>0.96                     |
| 170:<br>Skutum-----         | 85                        | Very limited<br>Slope<br>Restricted<br>permeability              | <br>1.00<br>0.96             | Very limited<br>Slope<br>Restricted<br>permeability              | <br>1.00<br>0.96             | Very limited<br>Slope<br>Restricted<br>permeability                                                 | <br>1.00<br>0.96                     |
| 171:<br>Skutum-----         | 85                        | Very limited<br>Slope<br>Restricted<br>permeability              | <br>1.00<br>0.96             | Very limited<br>Slope<br>Restricted<br>permeability              | <br>1.00<br>0.96             | Very limited<br>Slope<br>Restricted<br>permeability                                                 | <br>1.00<br>0.96                     |
| 172:<br>Skutum-----         | 60                        | Very limited<br>Slope<br>Restricted<br>permeability              | <br>1.00<br>0.96             | Very limited<br>Slope<br>Restricted<br>permeability              | <br>1.00<br>0.96             | Very limited<br>Slope<br>Restricted<br>permeability                                                 | <br>1.00<br>0.96                     |
| Uinta-----                  | 25                        | Very limited<br>Slope<br>Restricted<br>permeability              | <br>1.00<br>0.21             | Very limited<br>Slope<br>Restricted<br>permeability              | <br>1.00<br>0.21             | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Restricted<br>permeability | <br>1.00<br>0.84<br><br>0.26<br>0.21 |
| 173:<br>Skutum-----         | 60                        | Very limited<br>Slope<br>Restricted<br>permeability              | <br>1.00<br>0.96             | Very limited<br>Slope<br>Restricted<br>permeability              | <br>1.00<br>0.96             | Very limited<br>Slope<br>Restricted<br>permeability                                                 | <br>1.00<br>0.96                     |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                 |                      | Picnic areas                                        |                  | Playgrounds                                                                                         |                                      |
|-----------------------------|---------------------------|------------------------------------------------------------|----------------------|-----------------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                      | Value                | Rating class and<br>limiting features               | Value            | Rating class and<br>limiting features                                                               | Value                                |
| 173:<br>Uinta-----          | 25                        | Very limited<br>Slope<br>Restricted<br>permeability        | 1.00<br><br>0.21     | Very limited<br>Slope<br>Restricted<br>permeability | 1.00<br><br>0.21 | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Restricted<br>permeability | 1.00<br><br>0.84<br><br>0.26<br>0.21 |
| 174:<br>Snyderville-----    | 85                        | Not limited                                                |                      | Not limited                                         |                  | Somewhat limited<br>Content of large<br>stones<br>Gravel content<br>Slope                           | 0.92<br><br>0.22<br>0.21             |
| 175:<br>Snyderville-----    | 85                        | Not limited                                                |                      | Not limited                                         |                  | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content                               | 1.00<br><br>0.92<br>0.22             |
| 176:<br>Snyderville-----    | 85                        | Somewhat limited<br>Gravel content                         | 0.16                 | Somewhat limited<br>Gravel content                  | 0.16             | Very limited<br>Gravel content<br>Slope<br>Content of large<br>stones                               | 1.00<br>0.21<br>0.03                 |
| 177:<br>Uinta-----          | 55                        | Very limited<br>Slope<br>Restricted<br>permeability        | 1.00<br><br>0.21     | Very limited<br>Slope<br>Restricted<br>permeability | 1.00<br><br>0.21 | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Restricted<br>permeability | 1.00<br><br>0.84<br><br>0.26<br>0.21 |
| Duchesne-----               | 30                        | Very limited<br>Slope<br>Content of large<br>stones        | 1.00<br><br>0.18     | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br><br>0.18 | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content                               | 1.00<br><br>1.00<br>0.86             |
| 178:<br>Wanship-----        | 90                        | Very limited<br>Flooding<br><br>Depth to<br>saturated zone | 1.00<br><br><br>0.14 | Somewhat limited<br>Depth to<br>saturated zone      | 0.06             | Somewhat limited<br>Depth to<br>saturated zone<br>Slope<br>Content of large<br>stones               | 0.14<br><br><br>0.05<br>0.01         |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                                                                            |                          | Picnic areas                                                                          |                          | Playgrounds                                                                                                                     |                                          |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                 | Value                    | Rating class and<br>limiting features                                                 | Value                    | Rating class and<br>limiting features                                                                                           | Value                                    |
| 179:<br>Wanship-----        | 55                        | Very limited<br>Flooding<br>Depth to<br>saturated zone                                | 1.00<br><br>0.14         | Somewhat limited<br>Depth to<br>saturated zone                                        | 0.06                     | Somewhat limited<br>Depth to<br>saturated zone<br>Slope<br>Content of large<br>stones                                           | 0.14<br><br>0.05<br>0.01                 |
| Kovich-----                 | 30                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Restricted<br>permeability  | 1.00<br><br>1.00<br>0.21 | Somewhat limited<br>Depth to<br>saturated zone<br>Restricted<br>permeability          | 0.75<br><br>0.21         | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding<br>Restricted<br>permeability<br>Slope<br>Content of large<br>stones | 1.00<br><br>0.60<br>0.21<br>0.05<br>0.01 |
| 180:<br>Yeates Hollow-----  | 55                        | Somewhat limited<br>Restricted<br>permeability<br>Content of large<br>stones<br>Slope | 0.41<br><br>0.35<br>0.04 | Somewhat limited<br>Restricted<br>permeability<br>Content of large<br>stones<br>Slope | 0.41<br><br>0.35<br>0.04 | Very limited<br>Content of large<br>stones<br>Slope<br>Gravel content<br>Restricted<br>permeability                             | 1.00<br><br>1.00<br>0.67<br>0.41         |
| Henefer-----                | 30                        | Somewhat limited<br>Restricted<br>permeability<br>Gravel content<br>Slope             | 0.41<br><br>0.25<br>0.04 | Somewhat limited<br>Restricted<br>permeability<br>Gravel content<br>Slope             | 0.41<br><br>0.25<br>0.04 | Very limited<br>Gravel content<br>Slope<br>Restricted<br>permeability                                                           | 1.00<br>1.00<br>0.41                     |
| 181:<br>Yeates Hollow-----  | 55                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones     | 1.00<br><br>0.41<br>0.35 | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones     | 1.00<br><br>0.41<br>0.35 | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Restricted<br>permeability                             | 1.00<br><br>1.00<br>0.67<br>0.41         |
| Henefer-----                | 30                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Gravel content                 | 1.00<br><br>0.41<br>0.25 | Very limited<br>Slope<br>Restricted<br>permeability<br>Gravel content                 | 1.00<br><br>0.41<br>0.25 | Very limited<br>Slope<br>Gravel content<br>Restricted<br>permeability                                                           | 1.00<br><br>1.00<br>0.41                 |
| 182:<br>Yeates Hollow-----  | 55                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones     | 1.00<br><br>0.41<br>0.35 | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones     | 1.00<br><br>0.41<br>0.35 | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content<br>Restricted<br>permeability                             | 1.00<br><br>1.00<br>0.67<br>0.41         |

Table 9A.--Recreation--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Camp areas                            |       | Picnic areas                          |       | Playgrounds                           |       |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 182:<br>Henefer-----        | 30                        | Very limited<br>Slope                 | 1.00  | Very limited<br>Slope                 | 1.00  | Very limited<br>Slope                 | 1.00  |
|                             |                           | Restricted<br>permeability            | 0.41  | Restricted<br>permeability            | 0.41  | Gravel content                        | 1.00  |
|                             |                           | Gravel content                        | 0.25  | Gravel content                        | 0.25  | Restricted<br>permeability            | 0.41  |
| 183:<br>Water-----          | 100                       | Not rated                             |       | Not rated                             |       | Not rated                             |       |
| 184:<br>Dams-----           | 100                       | Not rated                             |       | Not rated                             |       | Not rated                             |       |

Table 9B.--Recreation

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                                        |                  | Off-road<br>motorcycle trails                       |                  | Golf fairways                                                                       |                                  |
|-----------------------------|---------------------------|---------------------------------------------------------|------------------|-----------------------------------------------------|------------------|-------------------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                   | Value            | Rating class and<br>limiting features               | Value            | Rating class and<br>limiting features                                               | Value                            |
| 101:<br>Agassiz-----        | 60                        | Very limited<br>Slope<br>Content of large<br>stones     | 1.00<br><br>0.42 | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br><br>0.42 | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones<br>Depth to bedrock | 1.00<br><br>1.00<br>1.00<br>1.00 |
| Rock outcrop-----           | 25                        | Not rated                                               |                  | Not rated                                           |                  | Not rated                                                                           |                                  |
| 102:<br>Ant Flat-----       | 85                        | Not limited                                             |                  | Not limited                                         |                  | Not limited                                                                         |                                  |
| 103:<br>Ant Flat-----       | 85                        | Not limited                                             |                  | Not limited                                         |                  | Somewhat limited<br>Slope                                                           | 0.63                             |
| 104:<br>Ant Flat-----       | 90                        | Somewhat limited<br>Slope                               | 0.92             | Not limited                                         |                  | Very limited<br>Slope                                                               | 1.00                             |
| 105:<br>Ant Flat-----       | 40                        | Somewhat limited<br>Slope                               | 0.50             | Not limited                                         |                  | Very limited<br>Slope                                                               | 1.00                             |
| Henefer-----                | 30                        | Somewhat limited<br>Slope                               | 0.50             | Not limited                                         |                  | Very limited<br>Slope<br>Gravel content                                             | 1.00<br>0.25                     |
| Skutumpah-----              | 20                        | Somewhat limited<br>Slope                               | 0.50             | Not limited                                         |                  | Very limited<br>Slope                                                               | 1.00                             |
| 106:<br>Ayoub-----          | 85                        | Somewhat limited<br>Content of large<br>stones          | 0.01             | Somewhat limited<br>Content of large<br>stones      | 0.01             | Somewhat limited<br>Content of large<br>stones<br>Depth to bedrock<br>Slope         | 0.99<br>0.10<br>0.04             |
| 107:<br>Ayoub-----          | 45                        | Somewhat limited<br>Slope<br>Content of large<br>stones | 0.82<br><br>0.01 | Somewhat limited<br>Content of large<br>stones      | 0.01             | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.99<br>0.10             |
| Dunford-----                | 20                        | Somewhat limited<br>Slope                               | 0.82             | Not limited                                         |                  | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.84<br>0.06             |



Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                      |       | Off-road<br>motorcycle trails         |       | Golf fairways                         |       |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 107:<br>Melling-----        | 20                        | Somewhat limited                      |       | Somewhat limited                      |       | Very limited                          |       |
|                             |                           | Slope                                 | 0.82  | Content of large                      | 0.61  | Depth to bedrock                      | 1.00  |
|                             |                           | Content of large                      | 0.61  | stones                                |       | Slope                                 | 1.00  |
|                             |                           | stones                                |       |                                       |       | Content of large                      | 1.00  |
|                             |                           |                                       |       |                                       |       | stones                                |       |
|                             |                           |                                       |       |                                       |       | Droughty                              | 1.00  |
| 108:<br>Ayoub-----          | 45                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Content of large                      | 0.01  | Content of large                      | 0.01  | Content of large                      | 0.99  |
|                             |                           | stones                                |       | stones                                |       | stones                                |       |
|                             |                           |                                       |       |                                       |       | Depth to bedrock                      | 0.10  |
| Dunford-----                | 20                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           |                                       |       |                                       |       | Content of large                      | 0.84  |
|                             |                           |                                       |       |                                       |       | stones                                |       |
|                             |                           |                                       |       |                                       |       | Depth to bedrock                      | 0.06  |
| Melling-----                | 20                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Depth to bedrock                      | 1.00  |
|                             |                           | Content of large                      | 0.61  | Content of large                      | 0.61  | Slope                                 | 1.00  |
|                             |                           | stones                                |       | stones                                |       | Content of large                      | 1.00  |
|                             |                           |                                       |       |                                       |       | stones                                |       |
|                             |                           |                                       |       |                                       |       | Droughty                              | 1.00  |
| 109:<br>Cluff-----          | 85                        | Somewhat limited                      |       | Not limited                           |       | Very limited                          |       |
|                             |                           | Slope                                 | 0.32  |                                       |       | Slope                                 | 1.00  |
| 110:<br>Cluff-----          | 85                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
| 111:<br>Crandall-----       | 90                        | Somewhat limited                      |       | Somewhat limited                      |       | Somewhat limited                      |       |
|                             |                           | Dusty                                 | 0.50  | Dusty                                 | 0.50  | Gravel content                        | 0.16  |
|                             |                           |                                       |       |                                       |       | Content of large                      | 0.03  |
|                             |                           |                                       |       |                                       |       | stones                                |       |
| 112:<br>Crandall-----       | 55                        | Somewhat limited                      |       | Somewhat limited                      |       | Very limited                          |       |
|                             |                           | Slope                                 | 0.50  | Dusty                                 | 0.50  | Slope                                 | 1.00  |
|                             |                           | Dusty                                 | 0.50  |                                       |       | Gravel content                        | 0.16  |
|                             |                           |                                       |       |                                       |       | Content of large                      | 0.03  |
|                             |                           |                                       |       |                                       |       | stones                                |       |
| Lucky Star-----             | 30                        | Somewhat limited                      |       | Not limited                           |       | Very limited                          |       |
|                             |                           | Slope                                 | 0.08  |                                       |       | Slope                                 | 1.00  |
|                             |                           |                                       |       |                                       |       | Gravel content                        | 0.22  |
|                             |                           |                                       |       |                                       |       | Droughty                              | 0.13  |
|                             |                           |                                       |       |                                       |       | Content of large                      | 0.01  |
|                             |                           |                                       |       |                                       |       | stones                                |       |
| 113:<br>Crandall-----       | 50                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Dusty                                 | 0.50  | Dusty                                 | 0.50  | Gravel content                        | 0.16  |
|                             |                           |                                       |       |                                       |       | Content of large                      | 0.03  |
|                             |                           |                                       |       |                                       |       | stones                                |       |

Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                                        |              | Off-road<br>motorcycle trails                       |              | Golf fairways                                                                     |                              |
|-----------------------------|---------------------------|---------------------------------------------------------|--------------|-----------------------------------------------------|--------------|-----------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                   | Value        | Rating class and<br>limiting features               | Value        | Rating class and<br>limiting features                                             | Value                        |
| 113:<br>Lucky Star-----     | 20                        | Very limited<br>Slope                                   | 1.00         | Very limited<br>Slope                               | 1.00         | Very limited<br>Slope<br>Gravel content<br>Droughty<br>Content of large<br>stones | 1.00<br>0.22<br>0.13<br>0.01 |
| Starley Family-----         | 15                        | Very limited<br>Slope<br>Content of large<br>stones     | 1.00<br>0.20 | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br>0.20 | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones                   | 1.00<br>1.00<br>1.00         |
| 114:<br>Crandall-----       | 50                        | Somewhat limited<br>Dusty<br>Slope                      | 0.50<br>0.08 | Somewhat limited<br>Dusty                           | 0.50         | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones             | 1.00<br>0.16<br>0.03         |
| Starley Family-----         | 30                        | Somewhat limited<br>Content of large<br>stones<br>Slope | 0.20<br>0.08 | Somewhat limited<br>Content of large<br>stones      | 0.20         | Very limited<br>Droughty<br>Content of large<br>stones<br>Slope                   | 1.00<br>1.00<br>1.00         |
| Rock outcrop-----           | 10                        | Not rated                                               |              | Not rated                                           |              | Not rated                                                                         |                              |
| 115:<br>Dastrup-----        | 90                        | Not limited                                             |              | Not limited                                         |              | Not limited                                                                       |                              |
| 116:<br>Dastrup-----        | 85                        | Not limited                                             |              | Not limited                                         |              | Somewhat limited<br>Slope                                                         | 0.16                         |
| 117:<br>Dastrup-----        | 85                        | Somewhat limited<br>Slope                               | 0.82         | Not limited                                         |              | Very limited<br>Slope                                                             | 1.00                         |
| 118:<br>Dromedary-----      | 70                        | Very limited<br>Slope                                   | 1.00         | Very limited<br>Slope                               | 1.00         | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones<br>Gravel content | 1.00<br>0.06<br>0.03<br>0.02 |
| Rock outcrop-----           | 15                        | Not rated                                               |              | Not rated                                           |              | Not rated                                                                         |                              |
| 119:<br>Duchesne-----       | 85                        | Somewhat limited<br>Content of large<br>stones          | 0.18         | Somewhat limited<br>Content of large<br>stones      | 0.18         | Very limited<br>Content of large<br>stones<br>Droughty<br>Slope                   | 1.00<br>0.17<br>0.16         |

Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                                        |              | Off-road<br>motorcycle trails                         |              | Golf fairways                                                                       |                      |
|-----------------------------|---------------------------|---------------------------------------------------------|--------------|-------------------------------------------------------|--------------|-------------------------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                   | Value        | Rating class and<br>limiting features                 | Value        | Rating class and<br>limiting features                                               | Value                |
| 120:<br>Duchesne-----       | 85                        | Somewhat limited<br>Slope<br>Content of large<br>stones | 0.82<br>0.18 | Somewhat limited<br>Content of large<br>stones        | 0.18         | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                     | 1.00<br>1.00<br>0.17 |
| 121:<br>Duchesne-----       | 85                        | Very limited<br>Slope<br>Content of large<br>stones     | 1.00<br>0.18 | Very limited<br>Slope<br>Content of large<br>stones   | 1.00<br>0.18 | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                     | 1.00<br>1.00<br>0.17 |
| 122:<br>Duchesne-----       | 60                        | Somewhat limited<br>Slope<br>Content of large<br>stones | 0.82<br>0.18 | Somewhat limited<br>Content of large<br>stones        | 0.18         | Very limited<br>Content of large<br>stones<br>Slope<br>Droughty                     | 1.00<br>1.00<br>0.17 |
| Haydenfork-----             | 25                        | Very limited<br>Ponding<br>Depth to<br>saturated zone   | 1.00<br>0.89 | Very limited<br>Ponding<br>Depth to<br>saturated zone | 1.00<br>0.89 | Very limited<br>Ponding<br>Depth to<br>saturated zone                               | 1.00<br>0.95         |
| 123:<br>Dumps, Mines-----   | 100                       | Not rated                                               |              | Not rated                                             |              | Not rated                                                                           |                      |
| 124:<br>Dunford-----        | 45                        | Somewhat limited<br>Slope                               | 0.82         | Not limited                                           |              | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.84<br>0.06 |
| Ayoub-----                  | 20                        | Somewhat limited<br>Slope<br>Content of large<br>stones | 0.82<br>0.01 | Somewhat limited<br>Content of large<br>stones        | 0.01         | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.99<br>0.10 |
| Melling-----                | 20                        | Somewhat limited<br>Slope<br>Content of large<br>stones | 0.82<br>0.61 | Somewhat limited<br>Content of large<br>stones        | 0.61         | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones<br>Droughty | 1.00<br>1.00<br>1.00 |
| 125:<br>Dunford-----        | 45                        | Very limited<br>Slope                                   | 1.00         | Very limited<br>Slope                                 | 1.00         | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.84<br>0.06 |
| Ayoub-----                  | 20                        | Very limited<br>Slope<br>Content of large<br>stones     | 1.00<br>0.01 | Very limited<br>Slope<br>Content of large<br>stones   | 1.00<br>0.01 | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.99<br>0.10 |

Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                                    |                  | Off-road<br>motorcycle trails                       |                  | Golf fairways                                                                                         |                                      |
|-----------------------------|---------------------------|-----------------------------------------------------|------------------|-----------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features               | Value            | Rating class and<br>limiting features               | Value            | Rating class and<br>limiting features                                                                 | Value                                |
| 125:<br>Melling-----        | 20                        | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br><br>0.61 | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br><br>0.61 | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones<br>Droughty                   | 1.00<br><br>1.00<br>1.00<br>1.00     |
| 126:<br>Echocreek-----      | 85                        | Not limited                                         |                  | Not limited                                         |                  | Not limited                                                                                           |                                      |
| 127:<br>Echocreek-----      | 65                        | Not limited                                         |                  | Not limited                                         |                  | Not limited                                                                                           |                                      |
| Kovich-----                 | 20                        | Somewhat limited<br>Depth to<br>saturated zone      | 0.44             | Somewhat limited<br>Depth to<br>saturated zone      | 0.44             | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding<br>Content of large<br>stones              | 0.75<br><br>0.60<br>0.01             |
| 128:<br>Fewkes-----         | 85                        | Not limited                                         |                  | Not limited                                         |                  | Somewhat limited<br>Gravel content                                                                    | 0.25                                 |
| 129:<br>Fewkes-----         | 85                        | Not limited                                         |                  | Not limited                                         |                  | Somewhat limited<br>Slope<br>Gravel content                                                           | 0.63<br>0.25                         |
| 130:<br>Fewkes-----         | 85                        | Somewhat limited<br>Slope                           | 0.82             | Not limited                                         |                  | Very limited<br>Slope<br>Gravel content                                                               | 1.00<br>0.25                         |
| 131:<br>Fewkes-----         | 60                        | Very limited<br>Slope                               | 1.00             | Very limited<br>Slope                               | 1.00             | Very limited<br>Slope<br>Gravel content                                                               | 1.00<br>0.25                         |
| Heiners-----                | 25                        | Very limited<br>Slope                               | 1.00             | Very limited<br>Slope                               | 1.00             | Very limited<br>Slope<br>Depth to bedrock<br>Droughty<br>Gravel content<br>Content of large<br>stones | 1.00<br>1.00<br>0.99<br>0.22<br>0.01 |
| 132:<br>Fewkes-----         | 55                        | Somewhat limited<br>Slope                           | 0.82             | Not limited                                         |                  | Very limited<br>Slope<br>Gravel content                                                               | 1.00<br>0.25                         |
| Hades-----                  | 30                        | Somewhat limited<br>Slope                           | 0.82             | Not limited                                         |                  | Very limited<br>Slope                                                                                 | 1.00                                 |
| 133:<br>Fewkes-----         | 55                        | Very limited<br>Slope                               | 1.00             | Very limited<br>Slope                               | 1.00             | Very limited<br>Slope<br>Gravel content                                                               | 1.00<br>0.25                         |

Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                                        |              | Off-road<br>motorcycle trails                       |              | Golf fairways                                                                       |                              |
|-----------------------------|---------------------------|---------------------------------------------------------|--------------|-----------------------------------------------------|--------------|-------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                   | Value        | Rating class and<br>limiting features               | Value        | Rating class and<br>limiting features                                               | Value                        |
| 133:<br>Hades-----          | 30                        | Very limited<br>Slope                                   | 1.00         | Very limited<br>Slope                               | 1.00         | Very limited<br>Slope                                                               | 1.00                         |
| 134:<br>Fewkes-----         | 55                        | Not limited                                             |              | Not limited                                         |              | Somewhat limited<br>Gravel content<br>Slope                                         | 0.25<br>0.16                 |
| Yeates Hollow-----          | 30                        | Somewhat limited<br>Content of large<br>stones          | 0.35         | Somewhat limited<br>Content of large<br>stones      | 0.35         | Very limited<br>Content of large<br>stones<br>Slope<br>Droughty                     | 1.00<br>0.04<br>0.01         |
| 135:<br>Fewkes-----         | 55                        | Very limited<br>Slope                                   | 1.00         | Not limited                                         |              | Very limited<br>Slope<br>Gravel content                                             | 1.00<br>0.25                 |
| Yeates Hollow-----          | 30                        | Somewhat limited<br>Slope<br>Content of large<br>stones | 0.92<br>0.35 | Somewhat limited<br>Content of large<br>stones      | 0.35         | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                     | 1.00<br>1.00<br>0.01         |
| 136:<br>Hades-----          | 50                        | Very limited<br>Slope                                   | 1.00         | Very limited<br>Slope                               | 1.00         | Very limited<br>Slope                                                               | 1.00                         |
| Agassiz-----                | 30                        | Very limited<br>Slope<br>Content of large<br>stones     | 1.00<br>0.42 | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br>0.42 | Very limited<br>Depth to bedrock<br>Slope<br>Droughty<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>1.00 |
| Rock outcrop-----           | 10                        | Not rated                                               |              | Not rated                                           |              | Not rated                                                                           |                              |
| 137:<br>Hades-----          | 55                        | Somewhat limited<br>Slope                               | 0.92         | Not limited                                         |              | Very limited<br>Slope                                                               | 1.00                         |
| Fewkes-----                 | 30                        | Somewhat limited<br>Slope                               | 0.92         | Not limited                                         |              | Very limited<br>Slope<br>Gravel content                                             | 1.00<br>0.25                 |
| 138:<br>Hades-----          | 55                        | Very limited<br>Slope                                   | 1.00         | Very limited<br>Slope                               | 1.00         | Very limited<br>Slope                                                               | 1.00                         |
| Fewkes-----                 | 30                        | Very limited<br>Slope                                   | 1.00         | Very limited<br>Slope                               | 1.00         | Very limited<br>Slope<br>Gravel content                                             | 1.00<br>0.25                 |
| 139:<br>Harter-----         | 85                        | Not limited                                             |              | Not limited                                         |              | Somewhat limited<br>Gravel content                                                  | 0.25                         |

Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                                        |              | Off-road<br>motorcycle trails                       |              | Golf fairways                                                                                         |                                      |
|-----------------------------|---------------------------|---------------------------------------------------------|--------------|-----------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                   | Value        | Rating class and<br>limiting features               | Value        | Rating class and<br>limiting features                                                                 | Value                                |
| 140:<br>Heiners-----        | 60                        | Somewhat limited<br>Slope                               | 0.92         | Not limited                                         |              | Very limited<br>Slope<br>Depth to bedrock<br>Droughty<br>Gravel content<br>Content of large<br>stones | 1.00<br>1.00<br>0.99<br>0.22<br>0.01 |
| Fewkes-----                 | 25                        | Somewhat limited<br>Slope                               | 0.92         | Not limited                                         |              | Very limited<br>Slope<br>Gravel content                                                               | 1.00<br>0.25                         |
| 141:<br>Heiners-----        | 35                        | Very limited<br>Slope                                   | 1.00         | Very limited<br>Slope                               | 1.00         | Very limited<br>Slope<br>Depth to bedrock<br>Droughty<br>Gravel content<br>Content of large<br>stones | 1.00<br>1.00<br>0.99<br>0.22<br>0.01 |
| Fewkes-----                 | 25                        | Very limited<br>Slope                                   | 1.00         | Very limited<br>Slope                               | 1.00         | Very limited<br>Slope<br>Gravel content                                                               | 1.00<br>0.25                         |
| Hades-----                  | 25                        | Very limited<br>Slope                                   | 1.00         | Very limited<br>Slope                               | 1.00         | Very limited<br>Slope                                                                                 | 1.00                                 |
| 142:<br>Henefer-----        | 45                        | Somewhat limited<br>Slope                               | 0.92         | Not limited                                         |              | Very limited<br>Slope<br>Gravel content                                                               | 1.00<br>0.25                         |
| Harter-----                 | 40                        | Somewhat limited<br>Slope                               | 0.92         | Not limited                                         |              | Very limited<br>Slope<br>Gravel content                                                               | 1.00<br>0.25                         |
| 143:<br>Horrocks-----       | 65                        | Very limited<br>Slope<br>Content of large<br>stones     | 1.00<br>0.14 | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br>0.14 | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                                       | 1.00<br>1.00<br>1.00<br>0.01         |
| Agassiz-----                | 20                        | Very limited<br>Slope<br>Content of large<br>stones     | 1.00<br>0.42 | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br>0.42 | Very limited<br>Depth to bedrock<br>Slope<br>Droughty<br>Content of large<br>stones                   | 1.00<br>1.00<br>1.00<br>1.00         |
| 144:<br>Horrocks-----       | 60                        | Somewhat limited<br>Slope<br>Content of large<br>stones | 0.92<br>0.14 | Somewhat limited<br>Content of large<br>stones      | 0.14         | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                                       | 1.00<br>1.00<br>0.01                 |



Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                                           |              | Off-road<br>motorcycle trails                              |              | Golf fairways                                                                                         |                                      |
|-----------------------------|---------------------------|------------------------------------------------------------|--------------|------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                      | Value        | Rating class and<br>limiting features                      | Value        | Rating class and<br>limiting features                                                                 | Value                                |
| 144:<br>Cutoff-----         | 25                        | Somewhat limited<br>Slope                                  | 0.92         | Not limited                                                |              | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones<br>Droughty<br>Depth to bedrock | 1.00<br>0.98<br>0.20<br>0.01<br>0.01 |
| 145:<br>Horrocks-----       | 60                        | Very limited<br>Slope<br>Content of large<br>stones        | 1.00<br>0.14 | Very limited<br>Slope<br>Content of large<br>stones        | 1.00<br>0.14 | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                                       | 1.00<br>1.00<br>0.01                 |
| Cutoff-----                 | 25                        | Very limited<br>Slope                                      | 1.00         | Very limited<br>Slope                                      | 1.00         | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones<br>Droughty<br>Depth to bedrock | 1.00<br>0.98<br>0.20<br>0.01<br>0.01 |
| 146:<br>Horrocks-----       | 65                        | Very limited<br>Slope<br>Content of large<br>stones        | 1.00<br>0.14 | Very limited<br>Slope<br>Content of large<br>stones        | 1.00<br>0.14 | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                                       | 1.00<br>1.00<br>0.01                 |
| Hades-----                  | 20                        | Very limited<br>Slope                                      | 1.00         | Very limited<br>Slope                                      | 1.00         | Very limited<br>Slope                                                                                 | 1.00                                 |
| 147:<br>Hovarka-----        | 45                        | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding | 0.89<br>0.40 | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding | 0.89<br>0.40 | Very limited<br>Flooding<br>Depth to<br>saturated zone                                                | 1.00<br>0.95                         |
| Millcreek-----              | 40                        | Not limited                                                |              | Not limited                                                |              | Somewhat limited<br>Content of large<br>stones                                                        | 0.01                                 |
| 148:<br>Jana-----           | 50                        | Very limited<br>Slope                                      | 1.00         | Very limited<br>Slope                                      | 1.00         | Very limited<br>Slope<br>Droughty<br>Depth to bedrock<br>Gravel content<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>0.96<br>0.32 |
| Richsum-----                | 30                        | Very limited<br>Slope                                      | 1.00         | Very limited<br>Slope                                      | 1.00         | Very limited<br>Slope                                                                                 | 1.00                                 |
| Rock outcrop-----           | 10                        | Not rated                                                  |              | Not rated                                                  |              | Not rated                                                                                             |                                      |

Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                               |       | Off-road<br>motorcycle trails                  |       | Golf fairways                                                                            |                              |
|-----------------------------|---------------------------|------------------------------------------------|-------|------------------------------------------------|-------|------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features          | Value | Rating class and<br>limiting features          | Value | Rating class and<br>limiting features                                                    | Value                        |
| 149:<br>Kovich-----         | 45                        | Somewhat limited<br>Depth to<br>saturated zone | 0.44  | Somewhat limited<br>Depth to<br>saturated zone | 0.44  | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding<br>Content of large<br>stones | 0.75<br>0.60<br>0.01         |
| Toddspan-----               | 40                        | Somewhat limited<br>Depth to<br>saturated zone | 0.89  | Somewhat limited<br>Depth to<br>saturated zone | 0.89  | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding<br>Content of large<br>stones | 0.95<br>0.60<br>0.01         |
| 150:<br>Lucky Star-----     | 85                        | Somewhat limited<br>Slope                      | 0.92  | Not limited                                    |       | Very limited<br>Slope<br>Gravel content<br>Droughty<br>Content of large<br>stones        | 1.00<br>0.22<br>0.13<br>0.01 |
| 151:<br>Lucky Star-----     | 85                        | Very limited<br>Slope                          | 1.00  | Very limited<br>Slope                          | 1.00  | Very limited<br>Slope<br>Gravel content<br>Droughty<br>Content of large<br>stones        | 1.00<br>0.22<br>0.13<br>0.01 |
| 152:<br>Lucky Star-----     | 55                        | Very limited<br>Slope                          | 1.00  | Very limited<br>Slope                          | 1.00  | Very limited<br>Slope<br>Gravel content<br>Droughty<br>Content of large<br>stones        | 1.00<br>0.22<br>0.13<br>0.01 |
| Dromedary-----              | 30                        | Very limited<br>Slope                          | 1.00  | Very limited<br>Slope                          | 1.00  | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones<br>Gravel content        | 1.00<br>0.06<br>0.03<br>0.02 |
| 153:<br>Lucky Star-----     | 55                        | Very limited<br>Slope                          | 1.00  | Very limited<br>Slope                          | 1.00  | Very limited<br>Slope<br>Gravel content<br>Droughty<br>Content of large<br>stones        | 1.00<br>0.22<br>0.13<br>0.01 |
| Fewkes-----                 | 30                        | Very limited<br>Slope                          | 1.00  | Very limited<br>Slope                          | 1.00  | Very limited<br>Slope<br>Gravel content                                                  | 1.00<br>0.25                 |
| 154:<br>Manila-----         | 50                        | Not limited                                    |       | Not limited                                    |       | Somewhat limited<br>Slope                                                                | 0.63                         |

Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                                        |              | Off-road<br>motorcycle trails                  |       | Golf fairways                                                                       |                              |
|-----------------------------|---------------------------|---------------------------------------------------------|--------------|------------------------------------------------|-------|-------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                   | Value        | Rating class and<br>limiting features          | Value | Rating class and<br>limiting features                                               | Value                        |
| 154:<br>Ant Flat-----       | 35                        | Not limited                                             |              | Not limited                                    |       | Not limited                                                                         |                              |
| 155:<br>Manila-----         | 50                        | Not limited                                             |              | Not limited                                    |       | Somewhat limited<br>Slope                                                           | 0.63                         |
| Ant Flat-----               | 35                        | Not limited                                             |              | Not limited                                    |       | Somewhat limited<br>Slope                                                           | 0.63                         |
| 156:<br>Manila-----         | 50                        | Not limited                                             |              | Not limited                                    |       | Not limited                                                                         |                              |
| Harter-----                 | 40                        | Not limited                                             |              | Not limited                                    |       | Somewhat limited<br>Gravel content                                                  | 0.25                         |
| 157:<br>Manila-----         | 60                        | Not limited                                             |              | Not limited                                    |       | Somewhat limited<br>Slope                                                           | 0.63                         |
| Henefer-----                | 25                        | Not limited                                             |              | Not limited                                    |       | Somewhat limited<br>Slope<br>Gravel content                                         | 0.63<br>0.25                 |
| 158:<br>Melling-----        | 50                        | Somewhat limited<br>Content of large<br>stones<br>Slope | 0.61<br>0.50 | Somewhat limited<br>Content of large<br>stones | 0.61  | Very limited<br>Depth to bedrock<br>Content of large<br>stones<br>Droughty<br>Slope | 1.00<br>1.00<br>1.00<br>1.00 |
| Ayoub-----                  | 30                        | Somewhat limited<br>Slope<br>Content of large<br>stones | 0.50<br>0.01 | Somewhat limited<br>Content of large<br>stones | 0.01  | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.99<br>0.10         |
| Rock outcrop-----           | 10                        | Not rated                                               |              | Not rated                                      |       | Not rated                                                                           |                              |
| 159:<br>Parkcity-----       | 70                        | Somewhat limited<br>Slope                               | 0.50         | Not limited                                    |       | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones               | 1.00<br>0.22<br>0.01         |
| Dromedary-----              | 20                        | Somewhat limited<br>Slope                               | 0.50         | Not limited                                    |       | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones<br>Gravel content   | 1.00<br>0.06<br>0.03<br>0.02 |
| 160:<br>Parkcity-----       | 70                        | Very limited<br>Slope                                   | 1.00         | Very limited<br>Slope                          | 1.00  | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones               | 1.00<br>0.22<br>0.01         |

Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                                      |              | Off-road<br>motorcycle trails                         |              | Golf fairways                                                                                         |                                      |
|-----------------------------|---------------------------|-------------------------------------------------------|--------------|-------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                 | Value        | Rating class and<br>limiting features                 | Value        | Rating class and<br>limiting features                                                                 | Value                                |
| 160:<br>Dromedary-----      | 20                        | Very limited<br>Slope                                 | 1.00         | Very limited<br>Slope                                 | 1.00         | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones<br>Gravel content                     | 1.00<br>0.06<br>0.03<br>0.02         |
| 161:<br>Pits, Gravel-----   | 100                       | Not rated                                             |              | Not rated                                             |              | Not rated                                                                                             |                                      |
| 162:<br>Richsum-----        | 70                        | Not limited                                           |              | Not limited                                           |              | Somewhat limited<br>Slope                                                                             | 0.16                                 |
| Heiners-----                | 20                        | Not limited                                           |              | Not limited                                           |              | Very limited<br>Depth to bedrock<br>Droughty<br>Gravel content<br>Slope<br>Content of large<br>stones | 1.00<br>0.99<br>0.22<br>0.16<br>0.01 |
| 163:<br>Richsum-----        | 60                        | Somewhat limited<br>Slope                             | 0.82         | Not limited                                           |              | Very limited<br>Slope                                                                                 | 1.00                                 |
| Heiners-----                | 30                        | Somewhat limited<br>Slope                             | 0.82         | Not limited                                           |              | Very limited<br>Slope<br>Depth to bedrock<br>Droughty<br>Gravel content<br>Content of large<br>stones | 1.00<br>1.00<br>0.99<br>0.22<br>0.01 |
| 164:<br>Rock outcrop-----   | 90                        | Not rated                                             |              | Not rated                                             |              | Not rated                                                                                             |                                      |
| 165:<br>Rock outcrop-----   | 50                        | Not rated                                             |              | Not rated                                             |              | Not rated                                                                                             |                                      |
| Starley Family-----         | 30                        | Very limited<br>Slope<br>Content of large<br>stones   | 1.00<br>0.20 | Very limited<br>Slope<br>Content of large<br>stones   | 1.00<br>0.20 | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones                                       | 1.00<br>1.00<br>1.00                 |
| 166:<br>Sessions-----       | 60                        | Somewhat limited<br>Dusty                             | 0.50         | Somewhat limited<br>Dusty                             | 0.50         | Somewhat limited<br>Content of large<br>stones                                                        | 0.01                                 |
| Haydenfork-----             | 25                        | Very limited<br>Ponding<br>Depth to<br>saturated zone | 1.00<br>1.00 | Very limited<br>Ponding<br>Depth to<br>saturated zone | 1.00<br>1.00 | Very limited<br>Ponding<br>Depth to<br>saturated zone                                                 | 1.00<br>1.00                         |
| 167:<br>Sessions-----       | 55                        | Somewhat limited<br>Dusty                             | 0.50         | Somewhat limited<br>Dusty                             | 0.50         | Somewhat limited<br>Content of large<br>stones                                                        | 0.01                                 |

Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                      |       | Off-road<br>motorcycle trails         |       | Golf fairways                                                                |                      |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|------------------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features                                        | Value                |
| 167:<br>Skutum-----         | 30                        | Not limited                           |       | Not limited                           |       | Not limited                                                                  |                      |
| 168:<br>Sessions-----       | 60                        | Somewhat limited<br>Dusty             | 0.50  | Somewhat limited<br>Dusty             | 0.50  | Somewhat limited<br>Slope<br>Content of large<br>stones                      | 0.16<br>0.01         |
| Uinta-----                  | 25                        | Somewhat limited<br>Slope             | 0.08  | Not limited                           |       | Very limited<br>Slope<br>Content of large<br>stones                          | 1.00<br>0.84         |
| 169:<br>Skutum-----         | 85                        | Not limited                           |       | Not limited                           |       | Somewhat limited<br>Slope                                                    | 0.16                 |
| 170:<br>Skutum-----         | 85                        | Somewhat limited<br>Slope             | 0.82  | Not limited                           |       | Very limited<br>Slope                                                        | 1.00                 |
| 171:<br>Skutum-----         | 85                        | Very limited<br>Slope                 | 1.00  | Very limited<br>Slope                 | 1.00  | Very limited<br>Slope                                                        | 1.00                 |
| 172:<br>Skutum-----         | 60                        | Somewhat limited<br>Slope             | 0.98  | Not limited                           |       | Very limited<br>Slope                                                        | 1.00                 |
| Uinta-----                  | 25                        | Somewhat limited<br>Slope             | 0.98  | Not limited                           |       | Very limited<br>Slope<br>Content of large<br>stones                          | 1.00<br>0.84         |
| 173:<br>Skutum-----         | 60                        | Very limited<br>Slope                 | 1.00  | Very limited<br>Slope                 | 1.00  | Very limited<br>Slope                                                        | 1.00                 |
| Uinta-----                  | 25                        | Very limited<br>Slope                 | 1.00  | Very limited<br>Slope                 | 1.00  | Very limited<br>Slope<br>Content of large<br>stones                          | 1.00<br>0.84         |
| 174:<br>Snyderville-----    | 85                        | Not limited                           |       | Not limited                           |       | Somewhat limited<br>Content of large<br>stones<br>Droughty                   | 0.92<br>0.04         |
| 175:<br>Snyderville-----    | 85                        | Not limited                           |       | Not limited                           |       | Somewhat limited<br>Content of large<br>stones<br>Droughty                   | 0.92<br>0.04         |
| 176:<br>Snyderville-----    | 85                        | Not limited                           |       | Not limited                           |       | Somewhat limited<br>Gravel content<br>Droughty<br>Content of large<br>stones | 0.16<br>0.04<br>0.03 |

Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                                        |              | Off-road<br>motorcycle trails                       |              | Golf fairways                                                                            |                      |
|-----------------------------|---------------------------|---------------------------------------------------------|--------------|-----------------------------------------------------|--------------|------------------------------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                   | Value        | Rating class and<br>limiting features               | Value        | Rating class and<br>limiting features                                                    | Value                |
| 177:<br>Uinta-----          | 55                        | Somewhat limited<br>Slope                               | 0.82         | Not limited                                         |              | Very limited<br>Slope<br>Content of large<br>stones                                      | 1.00<br>0.84         |
| Duchesne-----               | 30                        | Somewhat limited<br>Slope<br>Content of large<br>stones | 0.82<br>0.18 | Somewhat limited<br>Content of large<br>stones      | 0.18         | Very limited<br>Content of large<br>stones<br>Slope<br>Droughty                          | 1.00<br>1.00<br>0.17 |
| 178:<br>Wanship-----        | 90                        | Not limited                                             |              | Not limited                                         |              | Somewhat limited<br>Depth to<br>saturated zone<br>Content of large<br>stones             | 0.06<br>0.01         |
| 179:<br>Wanship-----        | 55                        | Not limited                                             |              | Not limited                                         |              | Somewhat limited<br>Depth to<br>saturated zone<br>Content of large<br>stones             | 0.06<br>0.01         |
| Kovich-----                 | 30                        | Somewhat limited<br>Depth to<br>saturated zone          | 0.44         | Somewhat limited<br>Depth to<br>saturated zone      | 0.44         | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding<br>Content of large<br>stones | 0.75<br>0.60<br>0.01 |
| 180:<br>Yeates Hollow-----  | 55                        | Somewhat limited<br>Content of large<br>stones          | 0.35         | Somewhat limited<br>Content of large<br>stones      | 0.35         | Very limited<br>Content of large<br>stones<br>Slope<br>Droughty                          | 1.00<br>0.04<br>0.01 |
| Henefer-----                | 30                        | Not limited                                             |              | Not limited                                         |              | Somewhat limited<br>Gravel content<br>Slope                                              | 0.25<br>0.04         |
| 181:<br>Yeates Hollow-----  | 55                        | Somewhat limited<br>Slope<br>Content of large<br>stones | 0.92<br>0.35 | Somewhat limited<br>Content of large<br>stones      | 0.35         | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                          | 1.00<br>1.00<br>0.01 |
| Henefer-----                | 30                        | Somewhat limited<br>Slope                               | 0.82         | Not limited                                         |              | Very limited<br>Slope<br>Gravel content                                                  | 1.00<br>0.25         |
| 182:<br>Yeates Hollow-----  | 55                        | Very limited<br>Slope<br>Content of large<br>stones     | 1.00<br>0.35 | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br>0.35 | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                          | 1.00<br>1.00<br>0.01 |



Table 9B.--Recreation--continued

| Map symbol<br>And soil name | Pct.<br>of<br>map<br>unit | Paths and trails                      |       | Off-road<br>motorcycle trails         |       | Golf fairways                           |              |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|-----------------------------------------|--------------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features   | Value        |
| 182:<br>Henefer-----        | 30                        | Very limited<br>Slope                 | 1.00  | Very limited<br>Slope                 | 1.00  | Very limited<br>Slope<br>Gravel content | 1.00<br>0.25 |
| 183:<br>Water-----          | 100                       | Not rated                             |       | Not rated                             |       | Not rated                               |              |
| 184:<br>Dams-----           | 100                       | Not rated                             |       | Not rated                             |       | Not rated                               |              |

Table 10.--Wildlife habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

| Map symbol<br>and soil name | Potential for habitat elements |                           |                                   |                           |        |                   |                           | Potential as habitat for--     |                                |                          |                                 |
|-----------------------------|--------------------------------|---------------------------|-----------------------------------|---------------------------|--------|-------------------|---------------------------|--------------------------------|--------------------------------|--------------------------|---------------------------------|
|                             | Grain<br>and<br>seed<br>crops  | Grasses<br>and<br>legumes | Wild<br>herba-<br>ceous<br>plants | Conif-<br>erous<br>plants | Shrubs | Wetland<br>plants | Shallow<br>water<br>areas | Open-<br>land<br>wild-<br>life | Wood-<br>land<br>wild-<br>life | Wetland<br>wild-<br>life | Range-<br>land<br>wild-<br>life |
| 101:<br>Agassiz-----        | Very<br>poor                   | Very<br>poor              | Poor                              | Poor                      | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| Rock outcrop-----           | ---                            | ---                       | ---                               | ---                       | ---    | ---               | ---                       | ---                            | ---                            | ---                      | ---                             |
| 102:<br>Ant Flat-----       | Fair                           | Good                      | Good                              | Fair                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| 103:<br>Ant Flat-----       | Poor                           | Fair                      | Fair                              | Fair                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Fair                           | Very<br>poor             | Good                            |
| 104:<br>Ant Flat-----       | Poor                           | Fair                      | Fair                              | Fair                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Fair                           | Very<br>poor             | Good                            |
| 105:<br>Ant Flat-----       | Poor                           | Fair                      | Fair                              | Fair                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Fair                           | Very<br>poor             | Good                            |
| Henefer-----                | Poor                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| Skutum-----                 | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Good                            |
| 106:<br>Ayoub-----          | Poor                           | Poor                      | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Poor                           | Very<br>poor             | Fair                            |
| 107:<br>Ayoub-----          | Poor                           | Poor                      | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Dunford-----                | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Poor                           | Very<br>poor             | Fair                            |
| Melling-----                | Very<br>poor                   | Very<br>poor              | Poor                              | Very<br>poor              | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| 108:<br>Ayoub-----          | Very<br>poor                   | Very<br>poor              | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Poor                           | Very<br>poor             | Fair                            |
| Dunford-----                | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Melling-----                | Very<br>poor                   | Very<br>poor              | Poor                              | Very<br>poor              | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| 109:<br>Cluff-----          | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| 110:<br>Cluff-----          | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |

Table 10.--Wildlife habitat--continued

| Map symbol<br>and soil name | Potential for habitat elements |                           |                                   |                           |        |                   |                           | Potential as habitat for--     |                                |                          |                                 |
|-----------------------------|--------------------------------|---------------------------|-----------------------------------|---------------------------|--------|-------------------|---------------------------|--------------------------------|--------------------------------|--------------------------|---------------------------------|
|                             | Grain<br>and<br>seed<br>crops  | Grasses<br>and<br>legumes | Wild<br>herba-<br>ceous<br>plants | Conif-<br>erous<br>plants | Shrubs | Wetland<br>plants | Shallow<br>water<br>areas | Open-<br>land<br>wild-<br>life | Wood-<br>land<br>wild-<br>life | Wetland<br>wild-<br>life | Range-<br>land<br>wild-<br>life |
| 111:<br>Crandall-----       | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| 112:<br>Crandall-----       | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| Lucky Star-----             | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| 113:<br>Crandall-----       | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Fair                           | Very<br>poor             | Good                            |
| Lucky Star-----             | Very<br>poor                   | Very<br>poor              | Good                              | Fair                      | Good   | Poor              | Very<br>poor              | Poor                           | Poor                           | Very<br>poor             | Good                            |
| Starley Family-----         | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 114:<br>Crandall-----       | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| Starley Family-----         | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Rock outcrop-----           | ---                            | ---                       | ---                               | ---                       | ---    | ---               | ---                       | ---                            | ---                            | ---                      | ---                             |
| 115:<br>Dastrup-----        | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 116:<br>Dastrup-----        | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 117:<br>Dastrup-----        | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 118:<br>Dromedary-----      | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Rock outcrop-----           | ---                            | ---                       | ---                               | ---                       | ---    | ---               | ---                       | ---                            | ---                            | ---                      | ---                             |
| 119:<br>Duchesne-----       | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| 120:<br>Duchesne-----       | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| 121:<br>Duchesne-----       | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| 122:<br>Duchesne-----       | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |

Table 10.--Wildlife habitat--continued

| Map symbol<br>and soil name | Potential for habitat elements |                           |                                   |                           |        |                   |                           | Potential as habitat for--     |                                |                          |                                 |
|-----------------------------|--------------------------------|---------------------------|-----------------------------------|---------------------------|--------|-------------------|---------------------------|--------------------------------|--------------------------------|--------------------------|---------------------------------|
|                             | Grain<br>and<br>seed<br>crops  | Grasses<br>and<br>legumes | Wild<br>herba-<br>ceous<br>plants | Conif-<br>erous<br>plants | Shrubs | Wetland<br>plants | Shallow<br>water<br>areas | Open-<br>land<br>wild-<br>life | Wood-<br>land<br>wild-<br>life | Wetland<br>wild-<br>life | Range-<br>land<br>wild-<br>life |
| 122:<br>Haydenfork-----     | Very<br>poor                   | Very<br>poor              | Poor                              | Poor                      | Poor   | Good              | Good                      | Very<br>poor                   | Poor                           | Good                     | Poor                            |
| 123:<br>Dumps, Mines-----   | ---                            | ---                       | ---                               | ---                       | ---    | ---               | ---                       | ---                            | ---                            | ---                      | ---                             |
| 124:<br>Dunford-----        | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Ayoub-----                  | Poor                           | Poor                      | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Poor                           | Very<br>poor             | Fair                            |
| Melling-----                | Very<br>poor                   | Very<br>poor              | Poor                              | Very<br>poor              | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| 125:<br>Dunford-----        | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Ayoub-----                  | Very<br>poor                   | Very<br>poor              | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Poor                           | Very<br>poor             | Fair                            |
| Melling-----                | Very<br>poor                   | Very<br>poor              | Poor                              | Very<br>poor              | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| 126:<br>Echocreek-----      | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 127:<br>Echocreek-----      | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Kovich-----                 | Very<br>poor                   | Very<br>poor              | Fair                              | Poor                      | Fair   | Good              | Fair                      | Poor                           | Fair                           | Fair                     | Fair                            |
| 128:<br>Fewkes-----         | Fair                           | Good                      | Good                              | Fair                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| 129:<br>Fewkes-----         | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 130:<br>Fewkes-----         | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 131:<br>Fewkes-----         | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Heiners-----                | Very<br>poor                   | Very<br>poor              | Poor                              | Very<br>poor              | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| 132:<br>Fewkes-----         | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Hades-----                  | Poor                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |

Table 10.--Wildlife habitat--continued

| Map symbol<br>and soil name | Potential for habitat elements |                           |                                   |                           |        |                   |                           | Potential as habitat for--     |                                |                          |                                 |
|-----------------------------|--------------------------------|---------------------------|-----------------------------------|---------------------------|--------|-------------------|---------------------------|--------------------------------|--------------------------------|--------------------------|---------------------------------|
|                             | Grain<br>and<br>seed<br>crops  | Grasses<br>and<br>legumes | Wild<br>herba-<br>ceous<br>plants | Conif-<br>erous<br>plants | Shrubs | Wetland<br>plants | Shallow<br>water<br>areas | Open-<br>land<br>wild-<br>life | Wood-<br>land<br>wild-<br>life | Wetland<br>wild-<br>life | Range-<br>land<br>wild-<br>life |
| 133:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Fewkes-----                 | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Hades-----                  | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| 134:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Fewkes-----                 | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Yeates Hollow-----          | Poor                           | Poor                      | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 135:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Fewkes-----                 | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Yeates Hollow-----          | Poor                           | Poor                      | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 136:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Hades-----                  | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| Agassiz-----                | Very<br>poor                   | Very<br>poor              | Poor                              | Poor                      | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| Rock outcrop-----           | ---                            | ---                       | ---                               | ---                       | ---    | ---               | ---                       | ---                            | ---                            | ---                      | ---                             |
| 137:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Hades-----                  | Poor                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| Fewkes-----                 | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 138:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Hades-----                  | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| Fewkes-----                 | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 139:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Harter-----                 | Fair                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| 140:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Heiners-----                | Very<br>poor                   | Very<br>poor              | Poor                              | Very<br>poor              | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| Fewkes-----                 | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 141:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Heiners-----                | Very<br>poor                   | Very<br>poor              | Poor                              | Very<br>poor              | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| Fewkes-----                 | Poor                           | Very<br>poor              | Very<br>poor                      | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |

Table 10.--Wildlife habitat--continued

| Map symbol<br>and soil name | Potential for habitat elements |                           |                                   |                           |        |                   |                           | Potential as habitat for--     |                                |                          |                                 |
|-----------------------------|--------------------------------|---------------------------|-----------------------------------|---------------------------|--------|-------------------|---------------------------|--------------------------------|--------------------------------|--------------------------|---------------------------------|
|                             | Grain<br>and<br>seed<br>crops  | Grasses<br>and<br>legumes | Wild<br>herba-<br>ceous<br>plants | Conif-<br>erous<br>plants | Shrubs | Wetland<br>plants | Shallow<br>water<br>areas | Open-<br>land<br>wild-<br>life | Wood-<br>land<br>wild-<br>life | Wetland<br>wild-<br>life | Range-<br>land<br>wild-<br>life |
| 141:<br>Hades-----          | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| 142:<br>Henefer-----        | Poor                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| Harter-----                 | Poor                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| 143:<br>Horrocks-----       | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Agassiz-----                | Very<br>poor                   | Very<br>poor              | Poor                              | Poor                      | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| 144:<br>Horrocks-----       | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Cutoff-----                 | Poor                           | Poor                      | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 145:<br>Horrocks-----       | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Cutoff-----                 | Very<br>poor                   | Very<br>poor              | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 146:<br>Horrocks-----       | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Hades-----                  | Poor                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| 147:<br>Hovarka-----        | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Good              | Fair                      | Poor                           | Fair                           | Fair                     | Fair                            |
| Millcreek-----              | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Poor              | Poor                      | Poor                           | Fair                           | Poor                     | Fair                            |
| 148:<br>Jana-----           | Very<br>poor                   | Very<br>poor              | Poor                              | Very<br>poor              | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| Richsum-----                | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Rock outcrop-----           | ---                            | ---                       | ---                               | ---                       | ---    | ---               | ---                       | ---                            | ---                            | ---                      | ---                             |
| 149:<br>Kovich-----         | Very<br>poor                   | Very<br>poor              | Fair                              | Poor                      | Fair   | Good              | Fair                      | Poor                           | Fair                           | Fair                     | Fair                            |
| Toddspring-----             | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Good              | Fair                      | Poor                           | Fair                           | Fair                     | Fair                            |



Table 10.--Wildlife habitat--continued

| Map symbol<br>and soil name | Potential for habitat elements |                           |                                   |                           |        |                   |                           | Potential as habitat for--     |                                |                          |                                 |
|-----------------------------|--------------------------------|---------------------------|-----------------------------------|---------------------------|--------|-------------------|---------------------------|--------------------------------|--------------------------------|--------------------------|---------------------------------|
|                             | Grain<br>and<br>seed<br>crops  | Grasses<br>and<br>legumes | Wild<br>herba-<br>ceous<br>plants | Conif-<br>erous<br>plants | Shrubs | Wetland<br>plants | Shallow<br>water<br>areas | Open-<br>land<br>wild-<br>life | Wood-<br>land<br>wild-<br>life | Wetland<br>wild-<br>life | Range-<br>land<br>wild-<br>life |
| 150:<br>Lucky Star-----     | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| 151:<br>Lucky Star-----     | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| 152:<br>Lucky Star-----     | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Good                            |
| Dromedary-----              | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Fair                           | Very<br>poor             | Fair                            |
| 153:<br>Lucky Star-----     | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| Fewkes-----                 | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 154:<br>Manila-----         | Fair                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| Ant Flat-----               | Fair                           | Good                      | Good                              | Fair                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| 155:<br>Manila-----         | Fair                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| Ant Flat-----               | Poor                           | Fair                      | Fair                              | Fair                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Fair                           | Very<br>poor             | Good                            |
| 156:<br>Manila-----         | Fair                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| Harter-----                 | Fair                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| 157:<br>Manila-----         | Fair                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| Henefer-----                | Poor                           | Fair                      | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Fair                           | Good                           | Very<br>poor             | Good                            |
| 158:<br>Melling-----        | Very<br>poor                   | Very<br>poor              | Poor                              | Very<br>poor              | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| Ayoub-----                  | Poor                           | Poor                      | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Poor                           | Very<br>poor             | Fair                            |
| Rock outcrop-----           | ---                            | ---                       | ---                               | ---                       | ---    | ---               | ---                       | ---                            | ---                            | ---                      | ---                             |
| 159:<br>Parkcity-----       | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |

Table 10.--Wildlife habitat--continued

| Map symbol<br>and soil name | Potential for habitat elements |                           |                                   |                           |        |                   |                           | Potential as habitat for--     |                                |                          |                                 |
|-----------------------------|--------------------------------|---------------------------|-----------------------------------|---------------------------|--------|-------------------|---------------------------|--------------------------------|--------------------------------|--------------------------|---------------------------------|
|                             | Grain<br>and<br>seed<br>crops  | Grasses<br>and<br>legumes | Wild<br>herba-<br>ceous<br>plants | Conif-<br>erous<br>plants | Shrubs | Wetland<br>plants | Shallow<br>water<br>areas | Open-<br>land<br>wild-<br>life | Wood-<br>land<br>wild-<br>life | Wetland<br>wild-<br>life | Range-<br>land<br>wild-<br>life |
| 159:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Dromedary-----              | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 160:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Parkcity-----               | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Good                            |
| Dromedary-----              | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Fair                           | Very<br>poor             | Fair                            |
| 161:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Pits, Gravel-----           | ---                            | ---                       | ---                               | ---                       | ---    | ---               | ---                       | ---                            | ---                            | ---                      | ---                             |
| 162:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Richsum-----                | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Heiners-----                | Very<br>poor                   | Very<br>poor              | Poor                              | Very<br>poor              | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| 163:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Richsum-----                | Poor                           | Poor                      | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Heiners-----                | Very<br>poor                   | Very<br>poor              | Poor                              | Very<br>poor              | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| 164:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Rock outcrop-----           | ---                            | ---                       | ---                               | ---                       | ---    | ---               | ---                       | ---                            | ---                            | ---                      | ---                             |
| Agassiz-----                | Very<br>poor                   | Very<br>poor              | Poor                              | Poor                      | Poor   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Poor                           | Very<br>poor             | Poor                            |
| Starley Family-----         | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Hades-----                  | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| Parkcity-----               | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Good                            |
| 165:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Rock outcrop-----           | ---                            | ---                       | ---                               | ---                       | ---    | ---               | ---                       | ---                            | ---                            | ---                      | ---                             |
| Starley Family-----         | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 166:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Sessions-----               | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| Haydenfork-----             | Very<br>poor                   | Very<br>poor              | Poor                              | Poor                      | Poor   | Good              | Good                      | Very<br>poor                   | Poor                           | Good                     | Poor                            |
| 167:                        |                                |                           |                                   |                           |        |                   |                           |                                |                                |                          |                                 |
| Sessions-----               | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| Skutum-----                 | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Good                            |

Table 10.--Wildlife habitat--continued

| Map symbol<br>and soil name | Potential for habitat elements |                           |                                   |                           |        |                   |                           | Potential as habitat for--     |                                |                          |                                 |
|-----------------------------|--------------------------------|---------------------------|-----------------------------------|---------------------------|--------|-------------------|---------------------------|--------------------------------|--------------------------------|--------------------------|---------------------------------|
|                             | Grain<br>and<br>seed<br>crops  | Grasses<br>and<br>legumes | Wild<br>herba-<br>ceous<br>plants | Conif-<br>erous<br>plants | Shrubs | Wetland<br>plants | Shallow<br>water<br>areas | Open-<br>land<br>wild-<br>life | Wood-<br>land<br>wild-<br>life | Wetland<br>wild-<br>life | Range-<br>land<br>wild-<br>life |
| 168:<br>Sessions-----       | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| Uinta-----                  | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Fair                           | Very<br>poor             | Fair                            |
| 169:<br>Skutum-----         | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Good                            |
| 170:<br>Skutum-----         | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Good                            |
| 171:<br>Skutum-----         | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Good                            |
| 172:<br>Skutum-----         | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Good                            |
| Uinta-----                  | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Fair                           | Very<br>poor             | Fair                            |
| 173:<br>Skutum-----         | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Good                            |
| Uinta-----                  | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Very<br>poor                   | Fair                           | Very<br>poor             | Fair                            |
| 174:<br>Snyderville-----    | Poor                           | Poor                      | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 175:<br>Snyderville-----    | Poor                           | Poor                      | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 176:<br>Snyderville-----    | Poor                           | Poor                      | Fair                              | Poor                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| 177:<br>Uinta-----          | Very<br>poor                   | Very<br>poor              | Fair                              | Fair                      | Fair   | Very<br>poor      | Very<br>poor              | Poor                           | Fair                           | Very<br>poor             | Fair                            |
| Duchesne-----               | Very<br>poor                   | Very<br>poor              | Good                              | Good                      | Good   | Very<br>poor      | Very<br>poor              | Poor                           | Good                           | Very<br>poor             | Good                            |
| 178:<br>Wanship-----        | Poor                           | Fair                      | Good                              | Good                      | Good   | Fair              | Fair                      | Fair                           | Good                           | Fair                     | Good                            |
| 179:<br>Wanship-----        | Poor                           | Fair                      | Good                              | Good                      | Good   | Fair              | Fair                      | Fair                           | Good                           | Fair                     | Good                            |
| Kovich-----                 | Very<br>poor                   | Very<br>poor              | Fair                              | Poor                      | Fair   | Good              | Fair                      | Poor                           | Fair                           | Fair                     | Fair                            |

[illegible][illegible]

Table 11A.--Building site development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                                  |                      | Dwellings with<br>basements                                                     |                      | Small commercial<br>buildings                                                   |                      |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                                           | Value                | Rating class and<br>limiting features                                           | Value                | Rating class and<br>limiting features                                           | Value                |
| 101:<br>Agassiz-----        | 60                        | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>1.00 |
| Rock outcrop-----           | 25                        | Not rated                                                                       |                      | Not rated                                                                       |                      | Not rated                                                                       |                      |
| 102:<br>Ant Flat-----       | 85                        | Very limited<br>Shrink-swell                                                    | 1.00                 | Somewhat limited<br>Shrink-swell                                                | 0.50                 | Very limited<br>Shrink-swell<br>Slope                                           | 1.00<br>0.12         |
| 103:<br>Ant Flat-----       | 85                        | Very limited<br>Shrink-swell<br>Slope                                           | 1.00<br>0.63         | Somewhat limited<br>Slope<br>Shrink-swell                                       | 0.63<br>0.50         | Very limited<br>Shrink-swell<br>Slope                                           | 1.00<br>1.00         |
| 104:<br>Ant Flat-----       | 90                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>1.00         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>1.00         |
| 105:<br>Ant Flat-----       | 40                        | Very limited<br>Shrink-swell<br>Slope                                           | 1.00<br>1.00         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Shrink-swell<br>Slope                                           | 1.00<br>1.00         |
| Henefer-----                | 30                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope                                                           | 1.00                 | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| Skutum-----                 | 20                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| 106:<br>Ayoub-----          | 85                        | Somewhat limited<br>Depth to hard<br>bedrock<br>Slope                           | 0.10<br>0.04         | Very limited<br>Depth to hard<br>bedrock<br>Slope                               | 1.00<br>0.04         | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br>0.10         |
| 107:<br>Ayoub-----          | 45                        | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br>0.10         | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br>1.00         | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br>0.10         |

Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                                                  |                              | Dwellings with<br>basements                                                                     |                              | Small commercial<br>buildings                                                                   |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                                           | Value                        | Rating class and<br>limiting features                                                           | Value                        | Rating class and<br>limiting features                                                           | Value                        |
| 107:<br>Dunford-----        | 20                        | Very limited<br>Slope<br>Shrink-swell<br>Depth to hard<br>bedrock                               | 1.00<br>0.50<br>0.06         | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Shrink-swell                               | 1.00<br>1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell<br>Depth to hard<br>bedrock                               | 1.00<br>0.50<br>0.06         |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br>0.63<br>0.50 |
| 108:<br>Ayoub-----          | 45                        | Very limited<br>Slope<br>Depth to hard<br>bedrock                                               | 1.00<br>0.10                 | Very limited<br>Slope<br>Depth to hard<br>bedrock                                               | 1.00<br>1.00                 | Very limited<br>Slope<br>Depth to hard<br>bedrock                                               | 1.00<br>0.10                 |
| Dunford-----                | 20                        | Very limited<br>Slope<br>Shrink-swell<br>Depth to hard<br>bedrock                               | 1.00<br>0.50<br>0.06         | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Shrink-swell                               | 1.00<br>1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell<br>Depth to hard<br>bedrock                               | 1.00<br>0.50<br>0.06         |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br>0.63<br>0.50 |
| 109:<br>Cluff-----          | 85                        | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones                             | 1.00<br>0.50<br>0.03         | Very limited<br>Slope<br>Shrink-swell<br>Depth to hard<br>bedrock<br>Content of large<br>stones | 1.00<br>0.50<br>0.13<br>0.03 | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones                             | 1.00<br>0.50<br>0.03         |
| 110:<br>Cluff-----          | 85                        | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones                             | 1.00<br>0.50<br>0.03         | Very limited<br>Slope<br>Shrink-swell<br>Depth to hard<br>bedrock<br>Content of large<br>stones | 1.00<br>0.50<br>0.13<br>0.03 | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones                             | 1.00<br>0.50<br>0.03         |
| 111:<br>Crandall-----       | 90                        | Not limited                                                                                     |                              | Somewhat limited<br>Depth to hard<br>bedrock                                                    | 0.08                         | Somewhat limited<br>Slope                                                                       | 0.12                         |



Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                      |                      | Dwellings with<br>basements                                         |                      | Small commercial<br>buildings                                       |                      |
|-----------------------------|---------------------------|---------------------------------------------------------------------|----------------------|---------------------------------------------------------------------|----------------------|---------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                               | Value                | Rating class and<br>limiting features                               | Value                | Rating class and<br>limiting features                               | Value                |
| 112:<br>Crandall-----       | 55                        | Very limited<br>Slope                                               | 1.00                 | Very limited<br>Slope<br>Depth to hard<br>bedrock                   | 1.00<br>0.08         | Very limited<br>Slope                                               | 1.00                 |
| Lucky Star-----             | 30                        | Very limited<br>Slope<br>Content of large<br>stones                 | 1.00<br>0.03         | Very limited<br>Slope<br>Content of large<br>stones                 | 1.00<br>0.03         | Very limited<br>Slope<br>Content of large<br>stones                 | 1.00<br>0.03         |
| 113:<br>Crandall-----       | 50                        | Very limited<br>Slope                                               | 1.00                 | Very limited<br>Slope<br>Depth to hard<br>bedrock                   | 1.00<br>0.08         | Very limited<br>Slope                                               | 1.00                 |
| Lucky Star-----             | 20                        | Very limited<br>Slope<br>Content of large<br>stones                 | 1.00<br>0.03         | Very limited<br>Slope<br>Content of large<br>stones                 | 1.00<br>0.03         | Very limited<br>Slope<br>Content of large<br>stones                 | 1.00<br>0.03         |
| Starley Family-----         | 15                        | Very limited<br>Slope<br>Content of large<br>stones                 | 1.00<br>0.17         | Very limited<br>Slope<br>Content of large<br>stones                 | 1.00<br>0.17         | Very limited<br>Slope<br>Content of large<br>stones                 | 1.00<br>0.17         |
| 114:<br>Crandall-----       | 50                        | Very limited<br>Slope                                               | 1.00                 | Very limited<br>Slope<br>Depth to hard<br>bedrock                   | 1.00<br>0.08         | Very limited<br>Slope                                               | 1.00                 |
| Starley Family-----         | 30                        | Very limited<br>Slope<br>Content of large<br>stones                 | 1.00<br>0.17         | Very limited<br>Slope<br>Content of large<br>stones                 | 1.00<br>0.17         | Very limited<br>Slope<br>Content of large<br>stones                 | 1.00<br>0.17         |
| Rock outcrop-----           | 10                        | Not rated                                                           |                      | Not rated                                                           |                      | Not rated                                                           |                      |
| 115:<br>Dastrup-----        | 90                        | Not limited                                                         |                      | Not limited                                                         |                      | Not limited                                                         |                      |
| 116:<br>Dastrup-----        | 85                        | Somewhat limited<br>Slope                                           | 0.16                 | Somewhat limited<br>Slope                                           | 0.16                 | Very limited<br>Slope                                               | 1.00                 |
| 117:<br>Dastrup-----        | 85                        | Very limited<br>Slope                                               | 1.00                 | Very limited<br>Slope                                               | 1.00                 | Very limited<br>Slope                                               | 1.00                 |
| 118:<br>Dromedary-----      | 70                        | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones | 1.00<br>0.50<br>0.33 | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones | 1.00<br>0.50<br>0.33 | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones | 1.00<br>0.50<br>0.33 |

Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                                                  |                                  | Dwellings with<br>basements                                                                     |                                  | Small commercial<br>buildings                                                                   |                                  |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                                                           | Value                            | Rating class and<br>limiting features                                                           | Value                            | Rating class and<br>limiting features                                                           | Value                            |
| 118:<br>Rock outcrop-----   | 15                        | Not rated                                                                                       |                                  | Not rated                                                                                       |                                  | Not rated                                                                                       |                                  |
| 119:<br>Duchesne-----       | 85                        | Somewhat limited<br>Content of large<br>stones<br>Slope                                         | 0.30<br><br>0.16                 | Somewhat limited<br>Content of large<br>stones<br>Slope                                         | 0.30<br><br>0.16                 | Very limited<br>Slope<br>Content of large<br>stones                                             | 1.00<br><br>0.30                 |
| 120:<br>Duchesne-----       | 85                        | Very limited<br>Slope<br>Content of large<br>stones                                             | 1.00<br><br>0.30                 | Very limited<br>Slope<br>Content of large<br>stones                                             | 1.00<br><br>0.30                 | Very limited<br>Slope<br>Content of large<br>stones                                             | 1.00<br><br>0.30                 |
| 121:<br>Duchesne-----       | 85                        | Very limited<br>Slope<br>Content of large<br>stones                                             | 1.00<br><br>0.30                 | Very limited<br>Slope<br>Content of large<br>stones                                             | 1.00<br><br>0.30                 | Very limited<br>Slope<br>Content of large<br>stones                                             | 1.00<br><br>0.30                 |
| 122:<br>Duchesne-----       | 60                        | Very limited<br>Slope<br>Content of large<br>stones                                             | 1.00<br><br>0.30                 | Very limited<br>Slope<br>Content of large<br>stones                                             | 1.00<br><br>0.30                 | Very limited<br>Slope<br>Content of large<br>stones                                             | 1.00<br><br>0.30                 |
| Haydenfork-----             | 25                        | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Shrink-swell                           | 1.00<br>1.00<br><br>0.50         | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Shrink-swell                           | 1.00<br>1.00<br><br>0.50         | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Shrink-swell                           | 1.00<br>1.00<br><br>0.50         |
| 123:<br>Dumps, Mines-----   | 100                       | Not rated                                                                                       |                                  | Not rated                                                                                       |                                  | Not rated                                                                                       |                                  |
| 124:<br>Dunford-----        | 45                        | Very limited<br>Slope<br>Shrink-swell<br>Depth to hard<br>bedrock                               | 1.00<br><br>0.50<br>0.06         | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Shrink-swell                               | 1.00<br>1.00<br><br>0.50         | Very limited<br>Slope<br>Shrink-swell<br>Depth to hard<br>bedrock                               | 1.00<br><br>0.50<br>0.06         |
| Ayoub-----                  | 20                        | Very limited<br>Slope<br>Depth to hard<br>bedrock                                               | 1.00<br><br>0.10                 | Very limited<br>Slope<br>Depth to hard<br>bedrock                                               | 1.00<br>1.00                     | Very limited<br>Slope<br>Depth to hard<br>bedrock                                               | 1.00<br><br>0.10                 |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br><br>0.63<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br><br>0.63<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br><br>0.63<br>0.50 |

Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                                                  |                              | Dwellings with<br>basements                                                                     |                              | Small commercial<br>buildings                                                                   |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                                           | Value                        | Rating class and<br>limiting features                                                           | Value                        | Rating class and<br>limiting features                                                           | Value                        |
| 125:<br>Dunford-----        | 45                        | Very limited<br>Slope<br>Shrink-swell<br>Depth to hard<br>bedrock                               | 1.00<br>0.50<br>0.06         | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Shrink-swell                               | 1.00<br>1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell<br>Depth to hard<br>bedrock                               | 1.00<br>0.50<br>0.06         |
| Ayoub-----                  | 20                        | Very limited<br>Slope<br>Depth to hard<br>bedrock                                               | 1.00<br>0.10                 | Very limited<br>Slope<br>Depth to hard<br>bedrock                                               | 1.00<br>1.00                 | Very limited<br>Slope<br>Depth to hard<br>bedrock                                               | 1.00<br>0.10                 |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br>0.63<br>0.50 |
| 126:<br>Echocreek-----      | 85                        | Not limited                                                                                     |                              | Not limited                                                                                     |                              | Somewhat limited<br>Slope                                                                       | 0.12                         |
| 127:<br>Echocreek-----      | 65                        | Not limited                                                                                     |                              | Not limited                                                                                     |                              | Somewhat limited<br>Slope                                                                       | 0.47                         |
| Kovich-----                 | 20                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Shrink-swell                          | 1.00<br>1.00<br>0.50         | Very limited<br>Flooding<br>Depth to<br>saturated zone                                          | 1.00<br>1.00                 | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Shrink-swell                          | 1.00<br>1.00<br>0.50         |
| 128:<br>Fewkes-----         | 85                        | Somewhat limited<br>Shrink-swell                                                                | 0.50                         | Somewhat limited<br>Shrink-swell                                                                | 0.50                         | Somewhat limited<br>Shrink-swell<br>Slope                                                       | 0.50<br>0.12                 |
| 129:<br>Fewkes-----         | 85                        | Somewhat limited<br>Slope<br>Shrink-swell                                                       | 0.63<br>0.50                 | Somewhat limited<br>Slope<br>Shrink-swell                                                       | 0.63<br>0.50                 | Very limited<br>Slope<br>Shrink-swell                                                           | 1.00<br>0.50                 |
| 130:<br>Fewkes-----         | 85                        | Very limited<br>Slope<br>Shrink-swell                                                           | 1.00<br>0.50                 | Very limited<br>Slope<br>Shrink-swell                                                           | 1.00<br>0.50                 | Very limited<br>Slope<br>Shrink-swell                                                           | 1.00<br>0.50                 |
| 131:<br>Fewkes-----         | 60                        | Very limited<br>Slope<br>Shrink-swell                                                           | 1.00<br>0.50                 | Very limited<br>Slope<br>Shrink-swell                                                           | 1.00<br>0.50                 | Very limited<br>Slope<br>Shrink-swell                                                           | 1.00<br>0.50                 |
| Heiners-----                | 25                        | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones                 | 1.00<br>1.00<br>0.01         | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones                 | 1.00<br>1.00<br>0.01         | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones                 | 1.00<br>1.00<br>0.01         |

Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                                  |                      | Dwellings with<br>basements                                                                         |                              | Small commercial<br>buildings                                                   |                      |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                                           | Value                | Rating class and<br>limiting features                                                               | Value                        | Rating class and<br>limiting features                                           | Value                |
| 132:                        |                           |                                                                                 |                      |                                                                                                     |                              |                                                                                 |                      |
| Fewkes-----                 | 55                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                                               | 1.00<br>0.50                 | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| Hades-----                  | 30                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                                               | 1.00<br>0.50                 | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| 133:                        |                           |                                                                                 |                      |                                                                                                     |                              |                                                                                 |                      |
| Fewkes-----                 | 55                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                                               | 1.00<br>0.50                 | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| Hades-----                  | 30                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                                               | 1.00<br>0.50                 | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| 134:                        |                           |                                                                                 |                      |                                                                                                     |                              |                                                                                 |                      |
| Fewkes-----                 | 55                        | Somewhat limited<br>Shrink-swell<br>Slope                                       | 0.50<br>0.16         | Somewhat limited<br>Shrink-swell<br>Slope                                                           | 0.50<br>0.16                 | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| Yeates Hollow-----          | 30                        | Somewhat limited<br>Content of large<br>stones<br>Shrink-swell<br>Slope         | 0.85<br>0.50<br>0.04 | Somewhat limited<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell<br>Slope | 0.93<br>0.85<br>0.50<br>0.04 | Very limited<br>Slope<br>Content of large<br>stones<br>Shrink-swell             | 1.00<br>0.85<br>0.50 |
| 135:                        |                           |                                                                                 |                      |                                                                                                     |                              |                                                                                 |                      |
| Fewkes-----                 | 55                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                                               | 1.00<br>0.50                 | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| Yeates Hollow-----          | 30                        | Very limited<br>Slope<br>Content of large<br>stones<br>Shrink-swell             | 1.00<br>0.85<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell     | 1.00<br>0.93<br>0.85<br>0.50 | Very limited<br>Slope<br>Content of large<br>stones<br>Shrink-swell             | 1.00<br>0.85<br>0.50 |
| 136:                        |                           |                                                                                 |                      |                                                                                                     |                              |                                                                                 |                      |
| Hades-----                  | 50                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                                               | 1.00<br>0.50                 | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| Agassiz-----                | 30                        | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones                     | 1.00<br>1.00<br>1.00         | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>1.00 |
| Rock outcrop-----           | 10                        | Not rated                                                                       |                      | Not rated                                                                                           |                              | Not rated                                                                       |                      |

Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                                  |                      | Dwellings with<br>basements                                                     |                      | Small commercial<br>buildings                                                   |                      |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                                           | Value                | Rating class and<br>limiting features                                           | Value                | Rating class and<br>limiting features                                           | Value                |
| 137:                        |                           |                                                                                 |                      |                                                                                 |                      |                                                                                 |                      |
| Hades-----                  | 55                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| Fewkes-----                 | 30                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| 138:                        |                           |                                                                                 |                      |                                                                                 |                      |                                                                                 |                      |
| Hades-----                  | 55                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| Fewkes-----                 | 30                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| 139:                        |                           |                                                                                 |                      |                                                                                 |                      |                                                                                 |                      |
| Harter-----                 | 85                        | Somewhat limited<br>Shrink-swell                                                | 0.50                 | Somewhat limited<br>Shrink-swell                                                | 0.50                 | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| 140:                        |                           |                                                                                 |                      |                                                                                 |                      |                                                                                 |                      |
| Heiners-----                | 60                        | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 |
| Fewkes-----                 | 25                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| 141:                        |                           |                                                                                 |                      |                                                                                 |                      |                                                                                 |                      |
| Heiners-----                | 35                        | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 |
| Fewkes-----                 | 25                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| Hades-----                  | 25                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| 142:                        |                           |                                                                                 |                      |                                                                                 |                      |                                                                                 |                      |
| Henefer-----                | 45                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope                                                           | 1.00                 | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |
| Harter-----                 | 40                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |

Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                                  |                              | Dwellings with<br>basements                                                     |                              | Small commercial<br>buildings                                                   |                              |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                           | Value                        | Rating class and<br>limiting features                                           | Value                        | Rating class and<br>limiting features                                           | Value                        |
| 143:<br>Horrocks-----       | 65                        | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br><br>0.27             | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br><br>0.27             | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br><br>0.27             |
| Agassiz-----                | 20                        | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones | 1.00<br><br>1.00<br><br>1.00 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones | 1.00<br><br>1.00<br><br>1.00 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones | 1.00<br><br>1.00<br><br>1.00 |
| 144:<br>Horrocks-----       | 60                        | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br><br>0.27             | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br><br>0.27             | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br><br>0.27             |
| Cutoff-----                 | 25                        | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br><br>0.01             | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br><br>1.00             | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br><br>0.01             |
| 145:<br>Horrocks-----       | 60                        | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br><br>0.27             | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br><br>0.27             | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br><br>0.27             |
| Cutoff-----                 | 25                        | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br><br>0.01             | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br><br>1.00             | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br><br>0.01             |
| 146:<br>Horrocks-----       | 65                        | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br><br>0.27             | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br><br>0.27             | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br><br>0.27             |
| Hades-----                  | 20                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br><br>0.50             | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br><br>0.50             | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br><br>0.50             |
| 147:<br>Hovarka-----        | 45                        | Very limited<br>Flooding<br>Depth to<br>saturated zone                          | 1.00<br><br>1.00             | Very limited<br>Flooding<br>Depth to<br>saturated zone                          | 1.00<br><br>1.00             | Very limited<br>Flooding<br>Depth to<br>saturated zone                          | 1.00<br><br>1.00             |
| Millcreek-----              | 40                        | Very limited<br>Flooding                                                        | 1.00                         | Very limited<br>Flooding<br>Depth to<br>saturated zone                          | 1.00<br>0.56                 | Very limited<br>Flooding                                                        | 1.00                         |



Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                                  |                      | Dwellings with<br>basements                                                     |                      | Small commercial<br>buildings                                                   |                      |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                                           | Value                | Rating class and<br>limiting features                                           | Value                | Rating class and<br>limiting features                                           | Value                |
| 148:<br>Jana-----           | 50                        | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.02 | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.02 | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.02 |
| Richsum-----                | 30                        | Very limited<br>Slope                                                           | 1.00                 | Very limited<br>Slope                                                           | 1.00                 | Very limited<br>Slope                                                           | 1.00                 |
| Rock outcrop-----           | 10                        | Not rated                                                                       |                      | Not rated                                                                       |                      | Not rated                                                                       |                      |
| 149:<br>Kovich-----         | 45                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Shrink-swell          | 1.00<br>1.00<br>0.50 | Very limited<br>Flooding<br>Depth to<br>saturated zone                          | 1.00<br>1.00         | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Shrink-swell          | 1.00<br>1.00<br>0.50 |
| Toddspan-----               | 40                        | Very limited<br>Flooding<br>Depth to<br>saturated zone                          | 1.00<br>1.00         | Very limited<br>Flooding<br>Depth to<br>saturated zone                          | 1.00<br>1.00         | Very limited<br>Flooding<br>Depth to<br>saturated zone                          | 1.00<br>1.00         |
| 150:<br>Lucky Star-----     | 85                        | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.03         | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.03         | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.03         |
| 151:<br>Lucky Star-----     | 85                        | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.03         | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.03         | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.03         |
| 152:<br>Lucky Star-----     | 55                        | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.03         | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.03         | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.03         |
| Dromedary-----              | 30                        | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones             | 1.00<br>0.50<br>0.33 | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones             | 1.00<br>0.50<br>0.33 | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones             | 1.00<br>0.50<br>0.33 |
| 153:<br>Lucky Star-----     | 55                        | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.03         | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.03         | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.03         |
| Fewkes-----                 | 30                        | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                           | 1.00<br>0.50         |

Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                                                  |                              | Dwellings with<br>basements                                                                     |                              | Small commercial<br>buildings                                                                   |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                                           | Value                        | Rating class and<br>limiting features                                                           | Value                        | Rating class and<br>limiting features                                                           | Value                        |
| 154:<br>Manila-----         | 50                        | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>0.63                 | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>0.63                 | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>1.00                 |
| Ant Flat-----               | 35                        | Very limited<br>Shrink-swell                                                                    | 1.00                         | Somewhat limited<br>Shrink-swell                                                                | 0.50                         | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>0.12                 |
| 155:<br>Manila-----         | 50                        | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>0.63                 | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>0.63                 | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>1.00                 |
| Ant Flat-----               | 35                        | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>0.63                 | Somewhat limited<br>Slope<br>Shrink-swell                                                       | 0.63<br>0.50                 | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>1.00                 |
| 156:<br>Manila-----         | 50                        | Very limited<br>Shrink-swell                                                                    | 1.00                         | Very limited<br>Shrink-swell                                                                    | 1.00                         | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>0.12                 |
| Harter-----                 | 40                        | Somewhat limited<br>Shrink-swell                                                                | 0.50                         | Somewhat limited<br>Shrink-swell                                                                | 0.50                         | Somewhat limited<br>Shrink-swell<br>Slope                                                       | 0.50<br>0.12                 |
| 157:<br>Manila-----         | 60                        | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>0.63                 | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>0.63                 | Very limited<br>Shrink-swell<br>Slope                                                           | 1.00<br>1.00                 |
| Henefer-----                | 25                        | Somewhat limited<br>Slope<br>Shrink-swell                                                       | 0.63<br>0.50                 | Somewhat limited<br>Slope                                                                       | 0.63                         | Very limited<br>Slope<br>Shrink-swell                                                           | 1.00<br>0.50                 |
| 158:<br>Melling-----        | 50                        | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | 1.00<br>1.00<br>0.63<br>0.50 |
| Ayoub-----                  | 30                        | Very limited<br>Slope<br>Depth to hard<br>bedrock                                               | 1.00<br>0.10                 | Very limited<br>Depth to hard<br>bedrock<br>Slope                                               | 1.00<br>1.00                 | Very limited<br>Slope<br>Depth to hard<br>bedrock                                               | 1.00<br>0.10                 |
| Rock outcrop-----           | 10                        | Not rated                                                                                       |                              | Not rated                                                                                       |                              | Not rated                                                                                       |                              |
| 159:<br>Parkcity-----       | 70                        | Very limited<br>Slope                                                                           | 1.00                         | Very limited<br>Slope                                                                           | 1.00                         | Very limited<br>Slope                                                                           | 1.00                         |
| Dromedary-----              | 20                        | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones                             | 1.00<br>0.50<br>0.33         | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones                             | 1.00<br>0.50<br>0.33         | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones                             | 1.00<br>0.50<br>0.33         |

Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                                      |                      | Dwellings with<br>basements                                                     |                      | Small commercial<br>buildings                                                   |                      |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                                               | Value                | Rating class and<br>limiting features                                           | Value                | Rating class and<br>limiting features                                           | Value                |
| 160:<br>Parkcity-----       | 70                        | Very limited<br>Slope                                                               | 1.00                 | Very limited<br>Slope                                                           | 1.00                 | Very limited<br>Slope                                                           | 1.00                 |
| Dromedary-----              | 20                        | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones                 | 1.00<br>0.50<br>0.33 | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones             | 1.00<br>0.50<br>0.33 | Very limited<br>Slope<br>Shrink-swell<br>Content of large<br>stones             | 1.00<br>0.50<br>0.33 |
| 161:<br>Pits, Gravel-----   | 100                       | Not rated                                                                           |                      | Not rated                                                                       |                      | Not rated                                                                       |                      |
| 162:<br>Richsum-----        | 70                        | Somewhat limited<br>Slope                                                           | 0.16                 | Somewhat limited<br>Slope                                                       | 0.16                 | Very limited<br>Slope                                                           | 1.00                 |
| Heiners-----                | 20                        | Somewhat limited<br>Depth to soft<br>bedrock<br>Slope<br>Content of large<br>stones | 1.00<br>0.16<br>0.01 | Very limited<br>Depth to soft<br>bedrock<br>Slope<br>Content of large<br>stones | 1.00<br>0.16<br>0.01 | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 |
| 163:<br>Richsum-----        | 60                        | Very limited<br>Slope                                                               | 1.00                 | Very limited<br>Slope                                                           | 1.00                 | Very limited<br>Slope                                                           | 1.00                 |
| Heiners-----                | 30                        | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones     | 1.00<br>1.00<br>0.01 | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 |
| 164:<br>Rock outcrop-----   | 90                        | Not rated                                                                           |                      | Not rated                                                                       |                      | Not rated                                                                       |                      |
| 165:<br>Rock outcrop-----   | 50                        | Not rated                                                                           |                      | Not rated                                                                       |                      | Not rated                                                                       |                      |
| Starley Family-----         | 30                        | Very limited<br>Slope<br>Content of large<br>stones                                 | 1.00<br>0.17         | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.17         | Very limited<br>Slope<br>Content of large<br>stones                             | 1.00<br>0.17         |
| 166:<br>Sessions-----       | 60                        | Very limited<br>Shrink-swell                                                        | 1.00                 | Very limited<br>Shrink-swell                                                    | 1.00                 | Very limited<br>Shrink-swell<br>Slope                                           | 1.00<br>1.00         |
| Haydenfork-----             | 25                        | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Shrink-swell               | 1.00<br>1.00<br>0.50 | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Shrink-swell           | 1.00<br>1.00<br>0.50 | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Shrink-swell           | 1.00<br>1.00<br>0.50 |
| 167:<br>Sessions-----       | 55                        | Very limited<br>Shrink-swell                                                        | 1.00                 | Very limited<br>Shrink-swell                                                    | 1.00                 | Very limited<br>Shrink-swell<br>Slope                                           | 1.00<br>1.00         |

Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                 |              | Dwellings with<br>basements                    |              | Small commercial<br>buildings                       |              |
|-----------------------------|---------------------------|------------------------------------------------|--------------|------------------------------------------------|--------------|-----------------------------------------------------|--------------|
|                             |                           | Rating class and<br>limiting features          | Value        | Rating class and<br>limiting features          | Value        | Rating class and<br>limiting features               | Value        |
| 167:<br>Skutum-----         | 30                        | Somewhat limited<br>Shrink-swell               | 0.50         | Somewhat limited<br>Shrink-swell               | 0.50         | Very limited<br>Slope<br>Shrink-swell               | 1.00<br>0.50 |
| 168:<br>Sessions-----       | 60                        | Very limited<br>Shrink-swell<br>Slope          | 1.00<br>0.16 | Very limited<br>Shrink-swell<br>Slope          | 1.00<br>0.16 | Very limited<br>Shrink-swell<br>Slope               | 1.00<br>1.00 |
| Uinta-----                  | 25                        | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell               | 1.00<br>0.50 |
| 169:<br>Skutum-----         | 85                        | Somewhat limited<br>Shrink-swell<br>Slope      | 0.50<br>0.16 | Somewhat limited<br>Shrink-swell<br>Slope      | 0.50<br>0.16 | Very limited<br>Slope<br>Shrink-swell               | 1.00<br>0.50 |
| 170:<br>Skutum-----         | 85                        | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell               | 1.00<br>0.50 |
| 171:<br>Skutum-----         | 85                        | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell               | 1.00<br>0.50 |
| 172:<br>Skutum-----         | 60                        | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell               | 1.00<br>0.50 |
| Uinta-----                  | 25                        | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell               | 1.00<br>0.50 |
| 173:<br>Skutum-----         | 60                        | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell               | 1.00<br>0.50 |
| Uinta-----                  | 25                        | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell          | 1.00<br>0.50 | Very limited<br>Slope<br>Shrink-swell               | 1.00<br>0.50 |
| 174:<br>Snyderville-----    | 85                        | Somewhat limited<br>Content of large<br>stones | 0.18         | Somewhat limited<br>Content of large<br>stones | 0.18         | Somewhat limited<br>Content of large<br>stones      | 0.18         |
| 175:<br>Snyderville-----    | 85                        | Somewhat limited<br>Content of large<br>stones | 0.18         | Somewhat limited<br>Content of large<br>stones | 0.18         | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br>0.18 |
| 176:<br>Snyderville-----    | 85                        | Not limited                                    |              | Not limited                                    |              | Not limited                                         |              |

Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                          |                      | Dwellings with<br>basements                                                                         |                              | Small commercial<br>buildings                                          |                      |
|-----------------------------|---------------------------|-------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------------------------|------------------------------|------------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                                               | Value                        | Rating class and<br>limiting features                                  | Value                |
| 177:<br>Uinta-----          | 55                        | Very limited<br>Slope<br>Shrink-swell                                   | 1.00<br>0.50         | Very limited<br>Slope<br>Shrink-swell                                                               | 1.00<br>0.50                 | Very limited<br>Slope<br>Shrink-swell                                  | 1.00<br>0.50         |
| Duchesne-----               | 30                        | Very limited<br>Slope<br>Content of large<br>stones                     | 1.00<br>0.30         | Very limited<br>Slope<br>Content of large<br>stones                                                 | 1.00<br>0.30                 | Very limited<br>Slope<br>Content of large<br>stones                    | 1.00<br>0.30         |
| 178:<br>Wanship-----        | 90                        | Very limited<br>Flooding<br>Depth to<br>saturated zone                  | 1.00<br>0.14         | Very limited<br>Flooding<br>Depth to<br>saturated zone                                              | 1.00<br>1.00                 | Very limited<br>Flooding<br>Depth to<br>saturated zone                 | 1.00<br>0.14         |
| 179:<br>Wanship-----        | 55                        | Very limited<br>Flooding<br>Depth to<br>saturated zone                  | 1.00<br>0.14         | Very limited<br>Flooding<br>Depth to<br>saturated zone                                              | 1.00<br>1.00                 | Very limited<br>Flooding<br>Depth to<br>saturated zone                 | 1.00<br>0.14         |
| Kovich-----                 | 30                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Shrink-swell  | 1.00<br>1.00<br>0.50 | Very limited<br>Flooding<br>Depth to<br>saturated zone                                              | 1.00<br>1.00                 | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Shrink-swell | 1.00<br>1.00<br>0.50 |
| 180:<br>Yeates Hollow-----  | 55                        | Somewhat limited<br>Content of large<br>stones<br>Shrink-swell<br>Slope | 0.85<br>0.50<br>0.04 | Somewhat limited<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell<br>Slope | 0.93<br>0.85<br>0.50<br>0.04 | Very limited<br>Slope<br>Content of large<br>stones<br>Shrink-swell    | 1.00<br>0.85<br>0.50 |
| Henefer-----                | 30                        | Somewhat limited<br>Shrink-swell<br>Slope                               | 0.50<br>0.04         | Somewhat limited<br>Slope                                                                           | 0.04                         | Very limited<br>Slope<br>Shrink-swell                                  | 1.00<br>0.50         |
| 181:<br>Yeates Hollow-----  | 55                        | Very limited<br>Slope<br>Content of large<br>stones<br>Shrink-swell     | 1.00<br>0.85<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell     | 1.00<br>0.93<br>0.85<br>0.50 | Very limited<br>Slope<br>Content of large<br>stones<br>Shrink-swell    | 1.00<br>0.85<br>0.50 |
| Henefer-----                | 30                        | Very limited<br>Slope<br>Shrink-swell                                   | 1.00<br>0.50         | Very limited<br>Slope                                                                               | 1.00                         | Very limited<br>Slope<br>Shrink-swell                                  | 1.00<br>0.50         |

Table 11A.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Dwellings without<br>basements                                      |                          | Dwellings with<br>basements                                                                     |                                  | Small commercial<br>buildings                                       |                          |
|-----------------------------|---------------------------|---------------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------------------------------------|--------------------------|
|                             |                           | Rating class and<br>limiting features                               | Value                    | Rating class and<br>limiting features                                                           | Value                            | Rating class and<br>limiting features                               | Value                    |
| 182:<br>Yeates Hollow-----  | 55                        | Very limited<br>Slope<br>Content of large<br>stones<br>Shrink-swell | <br>1.00<br>0.85<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell | <br>1.00<br>0.93<br>0.85<br>0.50 | Very limited<br>Slope<br>Content of large<br>stones<br>Shrink-swell | <br>1.00<br>0.85<br>0.50 |
| Henefer-----                | 30                        | Very limited<br>Slope<br>Shrink-swell                               | <br>1.00<br>0.50         | Very limited<br>Slope                                                                           | <br>1.00                         | Very limited<br>Slope<br>Shrink-swell                               | <br>1.00<br>0.50         |
| 183:<br>Water-----          | 100                       | Not rated                                                           |                          | Not rated                                                                                       |                                  | Not rated                                                           |                          |
| 184:<br>Dams-----           | 100                       | Not rated                                                           |                          | Not rated                                                                                       |                                  | Not rated                                                           |                          |



Table 11B.--Building site development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

| Map symbol and soil name | Pct. of map unit | Local roads and streets                                                                   |                                  | Shallow excavations                                                                        |                                  | Lawns and landscaping                                                            |                                  |
|--------------------------|------------------|-------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------|----------------------------------|
|                          |                  | Rating class and limiting features                                                        | Value                            | Rating class and limiting features                                                         | Value                            | Rating class and limiting features                                               | Value                            |
| 101:<br>Agassiz-----     | 60               | Very limited<br>Slope<br>Depth to hard bedrock<br>Content of large stones<br>Frost action | <br>1.00<br>1.00<br>1.00<br>0.50 | Very limited<br>Depth to hard bedrock<br>Slope<br>Content of large stones<br>Cutbanks cave | <br>1.00<br>1.00<br>1.00<br>0.10 | Very limited<br>Slope<br>Droughty<br>Content of large stones<br>Depth to bedrock | <br>1.00<br>1.00<br>1.00<br>1.00 |
| Rock outcrop-----        | 25               | Not rated                                                                                 |                                  | Not rated                                                                                  |                                  | Not rated                                                                        |                                  |
| 102:<br>Ant Flat-----    | 85               | Very limited<br>Low strength<br>Shrink-swell<br>Frost action                              | <br>1.00<br>1.00<br>0.50         | Somewhat limited<br>Too clayey<br>Cutbanks cave                                            | <br>0.28<br>0.10                 | Not limited                                                                      |                                  |
| 103:<br>Ant Flat-----    | 85               | Very limited<br>Low strength<br>Shrink-swell<br>Slope<br>Frost action                     | <br>1.00<br>1.00<br>0.63<br>0.50 | Somewhat limited<br>Slope<br>Too clayey<br>Cutbanks cave                                   | <br>0.63<br>0.28<br>0.10         | Somewhat limited<br>Slope                                                        | <br>0.63                         |
| 104:<br>Ant Flat-----    | 90               | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                     | <br>1.00<br>1.00<br>1.00<br>0.50 | Very limited<br>Slope<br>Too clayey<br>Cutbanks cave                                       | <br>1.00<br>0.28<br>0.10         | Very limited<br>Slope                                                            | <br>1.00                         |
| 105:<br>Ant Flat-----    | 40               | Very limited<br>Low strength<br>Shrink-swell<br>Slope<br>Frost action                     | <br>1.00<br>1.00<br>1.00<br>0.50 | Very limited<br>Slope<br>Too clayey<br>Cutbanks cave                                       | <br>1.00<br>0.28<br>0.10         | Very limited<br>Slope                                                            | <br>1.00                         |
| Henefer-----             | 30               | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                     | <br>1.00<br>1.00<br>0.50<br>0.50 | Very limited<br>Cutbanks cave<br>Slope<br>Too clayey                                       | <br>1.00<br>1.00<br>0.03         | Very limited<br>Slope<br>Gravel content                                          | <br>1.00<br>0.25                 |
| Skutum-----              | 20               | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                     | <br>1.00<br>1.00<br>0.50<br>0.50 | Very limited<br>Cutbanks cave<br>Slope                                                     | <br>1.00<br>1.00                 | Very limited<br>Slope                                                            | <br>1.00                         |
| 106:<br>Ayoub-----       | 85               | Somewhat limited<br>Frost action<br>Depth to hard bedrock<br>Slope                        | <br>0.50<br>0.10<br>0.04         | Very limited<br>Cutbanks cave<br>Depth to hard bedrock<br>Slope                            | <br>1.00<br>1.00<br>0.04         | Somewhat limited<br>Content of large stones<br>Depth to bedrock<br>Slope         | <br>0.99<br>0.10<br>0.04         |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                                                      |                                      | Shallow excavations                                                                                            |                                      | Lawns and landscaping                                                               |                              |
|-----------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                                                           | Value                                | Rating class and<br>limiting features                                                                          | Value                                | Rating class and<br>limiting features                                               | Value                        |
| 107:<br>Ayoub-----          | 45                        | Very limited<br>Slope<br>Frost action<br>Depth to hard<br>bedrock                                               | 1.00<br>0.50<br>0.10                 | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock                                             | 1.00<br>1.00<br>1.00                 | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.99<br>0.10         |
| Dunford-----                | 20                        | Very limited<br>Slope<br>Shrink-swell<br>Frost action<br>Depth to hard<br>bedrock                               | 1.00<br>0.50<br>0.50<br>0.06         | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock                                             | 1.00<br>1.00<br>1.00                 | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.84<br>0.06         |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell<br>Frost action | 1.00<br>1.00<br>0.63<br>0.50<br>0.50 | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones<br>Cutbanks cave               | 1.00<br>1.00<br>1.00<br>0.63<br>0.10 | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones<br>Droughty | 1.00<br>1.00<br>1.00<br>1.00 |
| 108:<br>Ayoub-----          | 45                        | Very limited<br>Slope<br>Frost action<br>Depth to hard<br>bedrock                                               | 1.00<br>0.50<br>0.10                 | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock                                             | 1.00<br>1.00<br>1.00                 | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.99<br>0.10         |
| Dunford-----                | 20                        | Very limited<br>Slope<br>Shrink-swell<br>Frost action<br>Depth to hard<br>bedrock                               | 1.00<br>0.50<br>0.50<br>0.06         | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock                                             | 1.00<br>1.00<br>1.00                 | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.84<br>0.06         |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell<br>Frost action | 1.00<br>1.00<br>0.63<br>0.50<br>0.50 | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones<br>Cutbanks cave               | 1.00<br>1.00<br>1.00<br>0.63<br>0.10 | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones<br>Droughty | 1.00<br>1.00<br>1.00<br>1.00 |
| 109:<br>Cluff-----          | 85                        | Very limited<br>Low strength<br>Slope<br>Shrink-swell<br>Frost action<br>Content of large<br>stones             | 1.00<br>1.00<br>0.50<br>0.50<br>0.03 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Too clayey<br>Cutbanks cave<br>Content of large<br>stones | 1.00<br>0.13<br>0.12<br>0.10<br>0.03 | Very limited<br>Slope                                                               | 1.00                         |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                                          |                                      | Shallow excavations                                                                                            |                                      | Lawns and landscaping                                                             |                              |
|-----------------------------|---------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                                               | Value                                | Rating class and<br>limiting features                                                                          | Value                                | Rating class and<br>limiting features                                             | Value                        |
| 110:<br>Cluff-----          | 85                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action<br>Content of large<br>stones | 1.00<br>1.00<br>0.50<br>0.50<br>0.03 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Too clayey<br>Cutbanks cave<br>Content of large<br>stones | 1.00<br>0.13<br>0.12<br>0.10<br>0.03 | Very limited<br>Slope                                                             | 1.00                         |
| 111:<br>Crandall-----       | 90                        | Somewhat limited<br>Frost action                                                                    | 0.50                                 | Somewhat limited<br>Cutbanks cave<br>Depth to hard<br>bedrock                                                  | 0.10<br>0.08                         | Somewhat limited<br>Gravel content<br>Content of large<br>stones                  | 0.16<br>0.03                 |
| 112:<br>Crandall-----       | 55                        | Very limited<br>Slope<br>Frost action                                                               | 1.00<br>0.50                         | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock                                             | 1.00<br>0.10<br>0.08                 | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones             | 1.00<br>0.16<br>0.03         |
| Lucky Star-----             | 30                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                                 | 1.00<br>0.50<br>0.03                 | Very limited<br>Cutbanks cave<br>Slope<br>Content of large<br>stones                                           | 1.00<br>1.00<br>0.03                 | Very limited<br>Slope<br>Gravel content<br>Droughty<br>Content of large<br>stones | 1.00<br>0.22<br>0.13<br>0.01 |
| 113:<br>Crandall-----       | 50                        | Very limited<br>Slope<br>Frost action                                                               | 1.00<br>0.50                         | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock                                             | 1.00<br>0.10<br>0.08                 | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones             | 1.00<br>0.16<br>0.03         |
| Lucky Star-----             | 20                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                                 | 1.00<br>0.50<br>0.03                 | Very limited<br>Slope<br>Cutbanks cave<br>Content of large<br>stones                                           | 1.00<br>1.00<br>0.03                 | Very limited<br>Slope<br>Gravel content<br>Droughty<br>Content of large<br>stones | 1.00<br>0.22<br>0.13<br>0.01 |
| Starley Family-----         | 15                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                                 | 1.00<br>0.50<br>0.17                 | Very limited<br>Slope<br>Content of large<br>stones<br>Cutbanks cave                                           | 1.00<br>0.17<br>0.10                 | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones                   | 1.00<br>1.00<br>1.00         |
| 114:<br>Crandall-----       | 50                        | Very limited<br>Slope<br>Frost action                                                               | 1.00<br>0.50                         | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock                                             | 1.00<br>0.10<br>0.08                 | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones             | 1.00<br>0.16<br>0.03         |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                          |                              | Shallow excavations                                                      |                      | Lawns and landscaping                                                             |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------|----------------------|-----------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                               | Value                        | Rating class and<br>limiting features                                    | Value                | Rating class and<br>limiting features                                             | Value                        |
| 114:<br>Starley Family----- | 30                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                 | 1.00<br>0.50<br>0.17         | Very limited<br>Slope<br>Content of large<br>stones<br>Cutbanks cave     | 1.00<br>0.17<br>0.10 | Very limited<br>Droughty<br>Content of large<br>stones<br>Slope                   | 1.00<br>1.00<br>1.00         |
| Rock outcrop-----           | 10                        | Not rated                                                                           |                              | Not rated                                                                |                      | Not rated                                                                         |                              |
| 115:<br>Dastrup-----        | 90                        | Somewhat limited<br>Frost action<br>Low strength                                    | 0.50<br>0.22                 | Somewhat limited<br>Cutbanks cave                                        | 0.10                 | Not limited                                                                       |                              |
| 116:<br>Dastrup-----        | 85                        | Somewhat limited<br>Frost action<br>Low strength<br>Slope                           | 0.50<br>0.22<br>0.16         | Somewhat limited<br>Slope<br>Cutbanks cave                               | 0.16<br>0.10         | Somewhat limited<br>Slope                                                         | 0.16                         |
| 117:<br>Dastrup-----        | 85                        | Very limited<br>Slope<br>Frost action<br>Low strength                               | 1.00<br>0.50<br>0.22         | Very limited<br>Slope<br>Cutbanks cave                                   | 1.00<br>0.10         | Very limited<br>Slope                                                             | 1.00                         |
| 118:<br>Dromedary-----      | 70                        | Very limited<br>Slope<br>Shrink-swell<br>Frost action<br>Content of large<br>stones | 1.00<br>0.50<br>0.50<br>0.33 | Very limited<br>Slope<br>Content of large<br>stones<br>Cutbanks cave     | 1.00<br>0.33<br>0.10 | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones<br>Gravel content | 1.00<br>0.06<br>0.03<br>0.02 |
| Rock outcrop-----           | 15                        | Not rated                                                                           |                              | Not rated                                                                |                      | Not rated                                                                         |                              |
| 119:<br>Duchesne-----       | 85                        | Somewhat limited<br>Frost action<br>Content of large<br>stones<br>Slope             | 0.50<br>0.30<br>0.16         | Somewhat limited<br>Content of large<br>stones<br>Slope<br>Cutbanks cave | 0.30<br>0.16<br>0.10 | Very limited<br>Content of large<br>stones<br>Droughty<br>Slope                   | 1.00<br>0.17<br>0.16         |
| 120:<br>Duchesne-----       | 85                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                 | 1.00<br>0.50<br>0.30         | Very limited<br>Slope<br>Content of large<br>stones<br>Cutbanks cave     | 1.00<br>0.30<br>0.10 | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                   | 1.00<br>1.00<br>0.17         |
| 121:<br>Duchesne-----       | 85                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                 | 1.00<br>0.50<br>0.30         | Very limited<br>Slope<br>Content of large<br>stones<br>Cutbanks cave     | 1.00<br>0.30<br>0.10 | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                   | 1.00<br>1.00<br>0.17         |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                                                      |                                      | Shallow excavations                                                                              |                              | Lawns and landscaping                                                               |                          |
|-----------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------|--------------------------|
|                             |                           | Rating class and<br>limiting features                                                                           | Value                                | Rating class and<br>limiting features                                                            | Value                        | Rating class and<br>limiting features                                               | Value                    |
| 122:<br>Duchesne-----       | 60                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                                             | 1.00<br><br>0.50<br>0.30             | Very limited<br>Slope<br>Content of large<br>stones<br>Cutbanks cave                             | 1.00<br>0.30<br>0.10         | Very limited<br>Content of large<br>stones<br>Slope<br>Droughty                     | 1.00<br><br>1.00<br>0.17 |
| Haydenfork-----             | 25                        | Very limited<br>Ponding<br>Frost action<br>Depth to<br>saturated zone<br>Shrink-swell                           | 1.00<br><br>1.00<br>0.95<br>0.50     | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Cutbanks cave                           | 1.00<br>1.00<br>1.00         | Very limited<br>Ponding<br>Depth to<br>saturated zone                               | 1.00<br><br>0.95         |
| 123:<br>Dumps, Mines-----   | 100                       | Not rated                                                                                                       |                                      | Not rated                                                                                        |                              | Not rated                                                                           |                          |
| 124:<br>Dunford-----        | 45                        | Very limited<br>Slope<br>Shrink-swell<br>Frost action<br>Depth to hard<br>bedrock                               | 1.00<br>0.50<br>0.50<br>0.06         | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock                               | 1.00<br>1.00<br>1.00         | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.84<br>0.06     |
| Ayoub-----                  | 20                        | Very limited<br>Slope<br>Frost action<br>Depth to hard<br>bedrock                                               | 1.00<br>0.50<br>0.10                 | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock                               | 1.00<br>1.00<br>1.00         | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.99<br>0.10     |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell<br>Frost action | 1.00<br>1.00<br>0.63<br>0.50<br>0.50 | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones<br>Cutbanks cave | 1.00<br>1.00<br>0.63<br>0.10 | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones<br>Droughty | 1.00<br>1.00<br>1.00     |
| 125:<br>Dunford-----        | 45                        | Very limited<br>Slope<br>Shrink-swell<br>Frost action<br>Depth to hard<br>bedrock                               | 1.00<br>0.50<br>0.50<br>0.06         | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock                               | 1.00<br>1.00<br>1.00         | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.84<br>0.06     |
| Ayoub-----                  | 20                        | Very limited<br>Slope<br>Frost action<br>Depth to hard<br>bedrock                                               | 1.00<br>0.50<br>0.10                 | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock                               | 1.00<br>1.00<br>1.00         | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | 1.00<br>0.99<br>0.10     |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                                                                       |                                                      | Shallow excavations                                                                                  |                                          | Lawns and landscaping                                                                                 |                                          |
|-----------------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                                                            | Value                                                | Rating class and<br>limiting features                                                                | Value                                    | Rating class and<br>limiting features                                                                 | Value                                    |
| 125:<br>Melling-----        | 20                        | Very limited<br>Slope<br>Depth to hard<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Shrink-swell<br>Frost action | <br>1.00<br>1.00<br>1.00<br><br>0.63<br>0.50<br>0.50 | Very limited<br>Depth to hard<br>bedrock<br>Slope<br><br>Content of large<br>stones<br>Cutbanks cave | <br>1.00<br><br>1.00<br><br>0.63<br>0.10 | Very limited<br>Depth to bedrock<br>Slope<br><br>Content of large<br>stones<br>Droughty               | <br>1.00<br><br>1.00<br><br>1.00         |
| 126:<br>Echocreek-----      | 85                        | Somewhat limited<br>Frost action                                                                                                 | <br>0.50                                             | Somewhat limited<br>Cutbanks cave                                                                    | <br>0.10                                 | Not limited                                                                                           |                                          |
| 127:<br>Echocreek-----      | 65                        | Somewhat limited<br>Frost action                                                                                                 | <br>0.50                                             | Somewhat limited<br>Cutbanks cave                                                                    | <br>0.10                                 | Not limited                                                                                           |                                          |
| Kovich-----                 | 20                        | Very limited<br>Frost action<br>Flooding<br>Low strength<br>Depth to<br>saturated zone<br>Shrink-swell                           | <br>1.00<br>1.00<br>1.00<br>0.75<br>0.50             | Very limited<br>Depth to<br>saturated zone<br>Cutbanks cave<br>Flooding                              | <br>1.00<br>1.00<br>0.60                 | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding<br>Content of large<br>stones              | <br>0.75<br><br>0.60<br>0.01             |
| 128:<br>Fewkes-----         | 85                        | Somewhat limited<br>Low strength<br>Shrink-swell<br>Frost action                                                                 | <br>0.78<br>0.50<br>0.50                             | Very limited<br>Cutbanks cave                                                                        | <br>1.00                                 | Somewhat limited<br>Gravel content                                                                    | <br>0.25                                 |
| 129:<br>Fewkes-----         | 85                        | Somewhat limited<br>Low strength<br>Slope<br>Shrink-swell<br>Frost action                                                        | <br>0.78<br>0.63<br>0.50<br>0.50                     | Very limited<br>Cutbanks cave<br>Slope                                                               | <br>1.00<br>0.63                         | Somewhat limited<br>Slope<br>Gravel content                                                           | <br>0.63<br>0.25                         |
| 130:<br>Fewkes-----         | 85                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                                                            | <br>1.00<br>0.78<br>0.50<br>0.50                     | Very limited<br>Slope<br>Cutbanks cave                                                               | <br>1.00<br>1.00                         | Very limited<br>Slope<br>Gravel content                                                               | <br>1.00<br>0.25                         |
| 131:<br>Fewkes-----         | 60                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                                                            | <br>1.00<br>0.78<br>0.50<br>0.50                     | Very limited<br>Slope<br>Cutbanks cave                                                               | <br>1.00<br>1.00                         | Very limited<br>Slope<br>Gravel content                                                               | <br>1.00<br>0.25                         |
| Heiners-----                | 25                        | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Frost action<br>Content of large<br>stones                                  | <br>1.00<br>1.00<br><br>0.50<br>0.01                 | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Cutbanks cave<br>Content of large<br>stones     | <br>1.00<br>1.00<br><br>0.10<br>0.01     | Very limited<br>Slope<br>Depth to bedrock<br>Droughty<br>Gravel content<br>Content of large<br>stones | <br>1.00<br>1.00<br>0.99<br>0.22<br>0.01 |



Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets            |       | Shallow excavations                   |       | Lawns and landscaping                 |       |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 132:                        |                           |                                       |       |                                       |       |                                       |       |
| Fewkes-----                 | 55                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Low strength                          | 0.78  | Cutbanks cave                         | 1.00  | Gravel content                        | 0.25  |
|                             |                           | Shrink-swell                          | 0.50  |                                       |       |                                       |       |
|                             |                           | Frost action                          | 0.50  |                                       |       |                                       |       |
| Hades-----                  | 30                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Low strength                          | 1.00  | Cutbanks cave                         | 0.10  |                                       |       |
|                             |                           | Shrink-swell                          | 0.50  |                                       |       |                                       |       |
|                             |                           | Frost action                          | 0.50  |                                       |       |                                       |       |
| 133:                        |                           |                                       |       |                                       |       |                                       |       |
| Fewkes-----                 | 55                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Low strength                          | 0.78  | Cutbanks cave                         | 1.00  | Gravel content                        | 0.25  |
|                             |                           | Shrink-swell                          | 0.50  |                                       |       |                                       |       |
|                             |                           | Frost action                          | 0.50  |                                       |       |                                       |       |
| Hades-----                  | 30                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Low strength                          | 1.00  | Cutbanks cave                         | 0.10  |                                       |       |
|                             |                           | Shrink-swell                          | 0.50  |                                       |       |                                       |       |
|                             |                           | Frost action                          | 0.50  |                                       |       |                                       |       |
| 134:                        |                           |                                       |       |                                       |       |                                       |       |
| Fewkes-----                 | 55                        | Somewhat limited                      |       | Very limited                          |       | Somewhat limited                      |       |
|                             |                           | Low strength                          | 0.78  | Cutbanks cave                         | 1.00  | Gravel content                        | 0.25  |
|                             |                           | Shrink-swell                          | 0.50  | Slope                                 | 0.16  | Slope                                 | 0.16  |
|                             |                           | Frost action                          | 0.50  |                                       |       |                                       |       |
|                             |                           | Slope                                 | 0.16  |                                       |       |                                       |       |
| Yeates Hollow-----          | 30                        | Very limited                          |       | Somewhat limited                      |       | Very limited                          |       |
|                             |                           | Low strength                          | 1.00  | Depth to hard                         | 0.93  | Content of large                      | 1.00  |
|                             |                           | Content of large                      | 0.85  | bedrock                               |       | stones                                |       |
|                             |                           | stones                                |       | Content of large                      | 0.85  | Slope                                 | 0.04  |
|                             |                           | Shrink-swell                          | 0.50  | stones                                |       | Droughty                              | 0.01  |
|                             |                           | Frost action                          | 0.50  | Too clayey                            | 0.28  |                                       |       |
|                             |                           | Slope                                 | 0.04  | Cutbanks cave                         | 0.10  |                                       |       |
|                             |                           |                                       |       | Slope                                 | 0.04  |                                       |       |
| 135:                        |                           |                                       |       |                                       |       |                                       |       |
| Fewkes-----                 | 55                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Low strength                          | 0.78  | Cutbanks cave                         | 1.00  | Gravel content                        | 0.25  |
|                             |                           | Shrink-swell                          | 0.50  |                                       |       |                                       |       |
|                             |                           | Frost action                          | 0.50  |                                       |       |                                       |       |
| Yeates Hollow-----          | 30                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Low strength                          | 1.00  | Depth to hard                         | 0.93  | Content of large                      | 1.00  |
|                             |                           | Content of large                      | 0.85  | bedrock                               |       | stones                                |       |
|                             |                           | stones                                |       | Content of large                      | 0.85  | Droughty                              | 0.01  |
|                             |                           | Shrink-swell                          | 0.50  | stones                                |       |                                       |       |
|                             |                           | Frost action                          | 0.50  | Too clayey                            | 0.28  |                                       |       |
|                             |                           |                                       |       | Cutbanks cave                         | 0.10  |                                       |       |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets            |       | Shallow excavations                   |       | Lawns and landscaping                 |       |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 136:                        |                           |                                       |       |                                       |       |                                       |       |
| Hades-----                  | 50                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Low strength                          | 1.00  | Cutbanks cave                         | 0.10  |                                       |       |
|                             |                           | Shrink-swell                          | 0.50  |                                       |       |                                       |       |
|                             |                           | Frost action                          | 0.50  |                                       |       |                                       |       |
| Agassiz-----                | 30                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Depth to hard                         | 1.00  | Depth to bedrock                      | 1.00  |
|                             |                           | Depth to hard                         | 1.00  | bedrock                               |       | Slope                                 | 1.00  |
|                             |                           | bedrock                               |       | Slope                                 | 1.00  | Droughty                              | 1.00  |
|                             |                           | Content of large                      | 1.00  | Content of large                      | 1.00  | Content of large                      | 1.00  |
|                             |                           | stones                                |       | stones                                |       | stones                                |       |
|                             |                           | Frost action                          | 0.50  | Cutbanks cave                         | 0.10  |                                       |       |
| Rock outcrop-----           | 10                        | Not rated                             |       | Not rated                             |       | Not rated                             |       |
| 137:                        |                           |                                       |       |                                       |       |                                       |       |
| Hades-----                  | 55                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Low strength                          | 1.00  | Cutbanks cave                         | 0.10  |                                       |       |
|                             |                           | Shrink-swell                          | 0.50  |                                       |       |                                       |       |
|                             |                           | Frost action                          | 0.50  |                                       |       |                                       |       |
| Fewkes-----                 | 30                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Low strength                          | 0.78  | Cutbanks cave                         | 1.00  | Gravel content                        | 0.25  |
|                             |                           | Shrink-swell                          | 0.50  |                                       |       |                                       |       |
|                             |                           | Frost action                          | 0.50  |                                       |       |                                       |       |
| 138:                        |                           |                                       |       |                                       |       |                                       |       |
| Hades-----                  | 55                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Low strength                          | 1.00  | Cutbanks cave                         | 0.10  |                                       |       |
|                             |                           | Shrink-swell                          | 0.50  |                                       |       |                                       |       |
|                             |                           | Frost action                          | 0.50  |                                       |       |                                       |       |
| Fewkes-----                 | 30                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Low strength                          | 0.78  | Cutbanks cave                         | 1.00  | Gravel content                        | 0.25  |
|                             |                           | Shrink-swell                          | 0.50  |                                       |       |                                       |       |
|                             |                           | Frost action                          | 0.50  |                                       |       |                                       |       |
| 139:                        |                           |                                       |       |                                       |       |                                       |       |
| Harter-----                 | 85                        | Very limited                          |       | Very limited                          |       | Somewhat limited                      |       |
|                             |                           | Low strength                          | 1.00  | Cutbanks cave                         | 1.00  | Gravel content                        | 0.25  |
|                             |                           | Shrink-swell                          | 0.50  | Too clayey                            | 0.28  |                                       |       |
|                             |                           | Frost action                          | 0.50  |                                       |       |                                       |       |
| 140:                        |                           |                                       |       |                                       |       |                                       |       |
| Heiners-----                | 60                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Depth to soft                         | 1.00  | Depth to soft                         | 1.00  | Depth to bedrock                      | 1.00  |
|                             |                           | bedrock                               |       | bedrock                               |       | Droughty                              | 0.99  |
|                             |                           | Frost action                          | 0.50  | Cutbanks cave                         | 0.10  | Gravel content                        | 0.22  |
|                             |                           | Content of large                      | 0.01  | Content of large                      | 0.01  | Content of large                      | 0.01  |
|                             |                           | stones                                |       | stones                                |       | stones                                |       |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                                      |                                      | Shallow excavations                                                                              |                                      | Lawns and landscaping                                                                                                   |                                                  |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                           | Value                                | Rating class and<br>limiting features                                                            | Value                                | Rating class and<br>limiting features                                                                                   | Value                                            |
| 140:<br>Fewkes-----         | 25                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                           | <br>1.00<br>0.78<br>0.50<br>0.50     | Very limited<br>Slope<br>Cutbanks cave                                                           | <br>1.00<br>1.00                     | Very limited<br>Slope<br>Gravel content                                                                                 | <br>1.00<br>0.25                                 |
| 141:<br>Heiners-----        | 35                        | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Frost action<br>Content of large<br>stones | <br>1.00<br>1.00<br><br>0.50<br>0.01 | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Cutbanks cave<br>Content of large<br>stones | <br>1.00<br>1.00<br><br>0.10<br>0.01 | Very limited<br>Slope<br>Depth to bedrock<br>Droughty<br>Gravel content<br>Gravel content<br>Content of large<br>stones | <br>1.00<br>1.00<br>0.99<br>0.22<br>0.22<br>0.01 |
| Fewkes-----                 | 25                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                           | <br>1.00<br>0.78<br>0.50<br>0.50     | Very limited<br>Slope<br>Cutbanks cave                                                           | <br>1.00<br>1.00                     | Very limited<br>Slope<br>Gravel content                                                                                 | <br>1.00<br>0.25                                 |
| Hades-----                  | 25                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                           | <br>1.00<br>1.00<br>0.50<br>0.50     | Very limited<br>Slope<br>Cutbanks cave                                                           | <br>1.00<br>0.10                     | Very limited<br>Slope                                                                                                   | <br>1.00                                         |
| 142:<br>Henefer-----        | 45                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                           | <br>1.00<br>1.00<br>0.50<br>0.50     | Very limited<br>Slope<br>Cutbanks cave<br>Too clayey                                             | <br>1.00<br>1.00<br>0.03             | Very limited<br>Slope<br>Gravel content                                                                                 | <br>1.00<br>0.25                                 |
| Harter-----                 | 40                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                           | <br>1.00<br>1.00<br>0.50<br>0.50     | Very limited<br>Slope<br>Cutbanks cave<br>Too clayey                                             | <br>1.00<br>1.00<br>0.28             | Very limited<br>Slope<br>Gravel content                                                                                 | <br>1.00<br>0.25                                 |
| 143:<br>Horrocks-----       | 65                        | Very limited<br>Slope<br>Frost action<br><br>Content of large<br>stones                         | <br>1.00<br>0.50<br><br>0.27         | Very limited<br>Slope<br>Cutbanks cave<br><br>Content of large<br>stones                         | <br>1.00<br>1.00<br><br>0.27         | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                                                         | <br>1.00<br>1.00<br><br>0.01                     |
| Agassiz-----                | 20                        | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Frost action | <br>1.00<br>1.00<br><br>1.00<br>0.50 | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones<br>Cutbanks cave | <br>1.00<br><br>1.00<br>1.00<br>0.10 | Very limited<br>Depth to bedrock<br>Slope<br>Droughty<br>Content of large<br>stones                                     | <br>1.00<br>1.00<br>1.00<br>1.00                 |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                             |                              | Shallow excavations                                                     |                      | Lawns and landscaping                                                                                 |                                      |
|-----------------------------|---------------------------|----------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                  | Value                        | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                                                 | Value                                |
| 144:<br>Horrocks-----       | 60                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                    | 1.00<br>0.50<br>0.27         | Very limited<br>Slope<br>Cutbanks cave<br>Content of large<br>stones    | 1.00<br>1.00<br>0.27 | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                                       | 1.00<br>1.00<br>0.01                 |
| Cutoff-----                 | 25                        | Very limited<br>Slope<br>Frost action<br>Depth to hard<br>bedrock                      | 1.00<br>0.50<br>0.01         | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock      | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones<br>Droughty<br>Depth to bedrock | 1.00<br>0.98<br>0.20<br>0.01<br>0.01 |
| 145:<br>Horrocks-----       | 60                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                    | 1.00<br>0.50<br>0.27         | Very limited<br>Slope<br>Cutbanks cave<br>Content of large<br>stones    | 1.00<br>1.00<br>0.27 | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                                       | 1.00<br>1.00<br>0.01                 |
| Cutoff-----                 | 25                        | Very limited<br>Slope<br>Frost action<br>Depth to hard<br>bedrock                      | 1.00<br>0.50<br>0.01         | Very limited<br>Slope<br>Cutbanks cave<br>Depth to hard<br>bedrock      | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones<br>Droughty<br>Depth to bedrock | 1.00<br>0.98<br>0.20<br>0.01<br>0.01 |
| 146:<br>Horrocks-----       | 65                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                    | 1.00<br>0.50<br>0.27         | Very limited<br>Slope<br>Cutbanks cave<br>Content of large<br>stones    | 1.00<br>1.00<br>0.27 | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty                                       | 1.00<br>1.00<br>0.01                 |
| Hades-----                  | 20                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                  | 1.00<br>1.00<br>0.50<br>0.50 | Very limited<br>Slope<br>Cutbanks cave                                  | 1.00<br>0.10         | Very limited<br>Slope                                                                                 | 1.00                                 |
| 147:<br>Hovarka-----        | 45                        | Very limited<br>Frost action<br>Flooding<br>Depth to<br>saturated zone<br>Low strength | 1.00<br>1.00<br>0.95<br>0.22 | Very limited<br>Depth to<br>saturated zone<br>Cutbanks cave<br>Flooding | 1.00<br>1.00<br>0.80 | Very limited<br>Flooding<br>Depth to<br>saturated zone                                                | 1.00<br>0.95                         |
| Millcreek-----              | 40                        | Very limited<br>Frost action<br>Flooding                                               | 1.00<br>0.40                 | Very limited<br>Cutbanks cave<br>Depth to<br>saturated zone             | 1.00<br>0.56         | Somewhat limited<br>Content of large<br>stones                                                        | 0.01                                 |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                                             |                                      | Shallow excavations                                                                              |                              | Lawns and landscaping                                                                                 |                                      |
|-----------------------------|---------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                                  | Value                                | Rating class and<br>limiting features                                                            | Value                        | Rating class and<br>limiting features                                                                 | Value                                |
| 148:<br>Jana-----           | 50                        | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Frost action<br>Content of large<br>stones        | 1.00<br>1.00<br>0.50<br>0.02         | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Cutbanks cave<br>Content of large<br>stones | 1.00<br>1.00<br>0.10<br>0.02 | Very limited<br>Slope<br>Droughty<br>Depth to bedrock<br>Gravel content<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>0.96<br>0.32 |
| Richsum-----                | 30                        | Very limited<br>Slope<br>Frost action<br>Low strength                                                  | 1.00<br>0.50<br>0.22                 | Very limited<br>Slope<br>Cutbanks cave                                                           | 1.00<br>1.00                 | Very limited<br>Slope                                                                                 | 1.00                                 |
| Rock outcrop-----           | 10                        | Not rated                                                                                              |                                      | Not rated                                                                                        |                              | Not rated                                                                                             |                                      |
| 149:<br>Kovich-----         | 45                        | Very limited<br>Frost action<br>Flooding<br>Low strength<br>Depth to<br>saturated zone<br>Shrink-swell | 1.00<br>1.00<br>1.00<br>0.75<br>0.50 | Very limited<br>Depth to<br>saturated zone<br>Cutbanks cave<br>Flooding                          | 1.00<br>1.00<br>0.60         | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding<br>Content of large<br>stones              | 0.75<br>0.60<br>0.01                 |
| Toddspan-----               | 40                        | Very limited<br>Frost action<br>Flooding<br>Depth to<br>saturated zone                                 | 1.00<br>1.00<br>0.95                 | Very limited<br>Depth to<br>saturated zone<br>Cutbanks cave<br>Flooding                          | 1.00<br>1.00<br>0.60         | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding<br>Content of large<br>stones              | 0.95<br>0.60<br>0.01                 |
| 150:<br>Lucky Star-----     | 85                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                                    | 1.00<br>0.50<br>0.03                 | Very limited<br>Slope<br>Cutbanks cave<br>Content of large<br>stones                             | 1.00<br>1.00<br>0.03         | Very limited<br>Slope<br>Gravel content<br>Droughty<br>Content of large<br>stones                     | 1.00<br>0.22<br>0.13<br>0.01         |
| 151:<br>Lucky Star-----     | 85                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                                    | 1.00<br>0.50<br>0.03                 | Very limited<br>Slope<br>Cutbanks cave<br>Content of large<br>stones                             | 1.00<br>1.00<br>0.03         | Very limited<br>Slope<br>Gravel content<br>Droughty<br>Content of large<br>stones                     | 1.00<br>0.22<br>0.13<br>0.01         |
| 152:<br>Lucky Star-----     | 55                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                                    | 1.00<br>0.50<br>0.03                 | Very limited<br>Slope<br>Cutbanks cave<br>Content of large<br>stones                             | 1.00<br>1.00<br>0.03         | Very limited<br>Slope<br>Gravel content<br>Droughty<br>Content of large<br>stones                     | 1.00<br>0.22<br>0.13<br>0.01         |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                          |                                  | Shallow excavations                                                  |                          | Lawns and landscaping                                                             |                                  |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                                               | Value                            | Rating class and<br>limiting features                                | Value                    | Rating class and<br>limiting features                                             | Value                            |
| 152:<br>Dromedary-----      | 30                        | Very limited<br>Slope<br>Shrink-swell<br>Frost action<br>Content of large<br>stones | <br>1.00<br>0.50<br>0.50<br>0.33 | Very limited<br>Slope<br>Content of large<br>stones<br>Cutbanks cave | <br>1.00<br>0.33<br>0.10 | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones<br>Gravel content | <br>1.00<br>0.06<br>0.03<br>0.02 |
| 153:<br>Lucky Star-----     | 55                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                 | <br>1.00<br>0.50<br>0.03         | Very limited<br>Slope<br>Cutbanks cave<br>Content of large<br>stones | <br>1.00<br>1.00<br>0.03 | Very limited<br>Slope<br>Gravel content<br>Droughty<br>Content of large<br>stones | <br>1.00<br>0.22<br>0.13<br>0.01 |
| Fewkes-----                 | 30                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action               | <br>1.00<br>0.78<br>0.50<br>0.50 | Very limited<br>Slope<br>Cutbanks cave                               | <br>1.00<br>1.00         | Very limited<br>Slope<br>Gravel content                                           | <br>1.00<br>0.25                 |
| 154:<br>Manila-----         | 50                        | Very limited<br>Low strength<br>Shrink-swell<br>Slope<br>Frost action               | <br>1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Cutbanks cave<br>Slope<br>Too clayey                 | <br>1.00<br>0.63<br>0.03 | Somewhat limited<br>Slope                                                         | <br>0.63                         |
| Ant Flat-----               | 35                        | Very limited<br>Low strength<br>Shrink-swell<br>Frost action                        | <br>1.00<br>1.00<br>0.50         | Somewhat limited<br>Too clayey<br>Cutbanks cave                      | <br>0.28<br>0.10         | Not limited                                                                       |                                  |
| 155:<br>Manila-----         | 50                        | Very limited<br>Low strength<br>Shrink-swell<br>Slope<br>Frost action               | <br>1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Cutbanks cave<br>Slope<br>Too clayey                 | <br>1.00<br>0.63<br>0.03 | Somewhat limited<br>Slope                                                         | <br>0.63                         |
| Ant Flat-----               | 35                        | Very limited<br>Low strength<br>Shrink-swell<br>Slope<br>Frost action               | <br>1.00<br>1.00<br>0.63<br>0.50 | Somewhat limited<br>Slope<br>Too clayey<br>Cutbanks cave             | <br>0.63<br>0.28<br>0.10 | Somewhat limited<br>Slope                                                         | <br>0.63                         |
| 156:<br>Manila-----         | 50                        | Very limited<br>Low strength<br>Shrink-swell<br>Frost action                        | <br>1.00<br>1.00<br>0.50         | Very limited<br>Cutbanks cave<br>Too clayey                          | <br>1.00<br>0.03         | Not limited                                                                       |                                  |
| Harter-----                 | 40                        | Very limited<br>Low strength<br>Shrink-swell<br>Frost action                        | <br>1.00<br>0.50<br>0.50         | Very limited<br>Cutbanks cave<br>Too clayey                          | <br>1.00<br>0.28         | Somewhat limited<br>Gravel content                                                | <br>0.25                         |



Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                                                      |                                          | Shallow excavations                                                                              |                                  | Lawns and landscaping                                                               |                                  |
|-----------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                                                                           | Value                                    | Rating class and<br>limiting features                                                            | Value                            | Rating class and<br>limiting features                                               | Value                            |
| 157:<br>Manila-----         | 60                        | Very limited<br>Low strength<br>Shrink-swell<br>Slope<br>Frost action                                           | <br>1.00<br>1.00<br>0.63<br>0.50         | Very limited<br>Cutbanks cave<br>Slope<br>Too clayey                                             | <br>1.00<br>0.63<br>0.03         | Somewhat limited<br>Slope                                                           | <br>0.63                         |
| Henefer-----                | 25                        | Very limited<br>Low strength<br>Slope<br>Shrink-swell<br>Frost action                                           | <br>1.00<br>0.63<br>0.50<br>0.50         | Very limited<br>Cutbanks cave<br>Slope<br>Too clayey                                             | <br>1.00<br>0.63<br>0.03         | Somewhat limited<br>Slope<br>Gravel content                                         | <br>0.63<br>0.25                 |
| 158:<br>Melling-----        | 50                        | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones<br>Shrink-swell<br>Frost action | <br>1.00<br>1.00<br>0.63<br>0.50<br>0.50 | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones<br>Cutbanks cave | <br>1.00<br>1.00<br>0.63<br>0.10 | Very limited<br>Depth to bedrock<br>Content of large<br>stones<br>Droughty<br>Slope | <br>1.00<br>1.00<br>1.00<br>1.00 |
| Ayoub-----                  | 30                        | Very limited<br>Slope<br>Frost action<br>Depth to hard<br>bedrock                                               | <br>1.00<br>0.50<br>0.10                 | Very limited<br>Cutbanks cave<br>Depth to hard<br>bedrock<br>Slope                               | <br>1.00<br>1.00<br>1.00         | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to bedrock             | <br>1.00<br>0.99<br>0.10         |
| Rock outcrop-----           | 10                        | Not rated                                                                                                       |                                          | Not rated                                                                                        |                                  | Not rated                                                                           |                                  |
| 159:<br>Parkcity-----       | 70                        | Very limited<br>Slope<br>Frost action                                                                           | <br>1.00<br>0.50                         | Very limited<br>Slope<br>Cutbanks cave                                                           | <br>1.00<br>0.10                 | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones               | <br>1.00<br>0.22<br>0.01         |
| Dromedary-----              | 20                        | Very limited<br>Slope<br>Shrink-swell<br>Frost action<br>Content of large<br>stones                             | <br>1.00<br>0.50<br>0.50<br>0.33         | Very limited<br>Slope<br>Content of large<br>stones<br>Cutbanks cave                             | <br>1.00<br>0.33<br>0.10         | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones<br>Gravel content   | <br>1.00<br>0.06<br>0.03<br>0.02 |
| 160:<br>Parkcity-----       | 70                        | Very limited<br>Slope<br>Frost action                                                                           | <br>1.00<br>0.50                         | Very limited<br>Slope<br>Cutbanks cave                                                           | <br>1.00<br>0.10                 | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones               | <br>1.00<br>0.22<br>0.01         |
| Dromedary-----              | 20                        | Very limited<br>Slope<br>Shrink-swell<br>Frost action<br>Content of large<br>stones                             | <br>1.00<br>0.50<br>0.50<br>0.33         | Very limited<br>Slope<br>Content of large<br>stones<br>Cutbanks cave                             | <br>1.00<br>0.33<br>0.10         | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones<br>Gravel content   | <br>1.00<br>0.06<br>0.33<br>0.02 |
| 161:<br>Pits, Gravel-----   | 100                       | Not rated                                                                                                       |                                          | Not rated                                                                                        |                                  | Not rated                                                                           |                                  |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                                          |                                      | Shallow excavations                                                                              |                                      | Lawns and landscaping                                                                                 |                                          |
|-----------------------------|---------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                               | Value                                | Rating class and<br>limiting features                                                            | Value                                | Rating class and<br>limiting features                                                                 | Value                                    |
| 162:<br>Richsum-----        | 70                        | Somewhat limited<br>Frost action<br>Low strength<br>Slope                                           | <br>0.50<br>0.22<br>0.16             | Very limited<br>Cutbanks cave<br>Slope                                                           | <br>1.00<br>0.16                     | Somewhat limited<br>Slope                                                                             | <br><br>0.16                             |
| Heiners-----                | 20                        | Somewhat limited<br>Depth to soft<br>bedrock<br>Frost action<br>Slope<br>Content of large<br>stones | <br>1.00<br><br>0.50<br>0.16<br>0.01 | Very limited<br>Depth to soft<br>bedrock<br>Slope<br>Cutbanks cave<br>Content of large<br>stones | <br>1.00<br><br>0.16<br>0.10<br>0.01 | Very limited<br>Depth to bedrock<br>Droughty<br>Gravel content<br>Slope<br>Content of large<br>stones | <br>1.00<br>0.99<br>0.22<br>0.16<br>0.01 |
| 163:<br>Richsum-----        | 60                        | Very limited<br>Slope<br>Frost action<br>Low strength                                               | <br>1.00<br>0.50<br>0.22             | Very limited<br>Slope<br>Cutbanks cave                                                           | <br>1.00<br>1.00                     | Very limited<br>Slope                                                                                 | <br>1.00                                 |
| Heiners-----                | 30                        | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Frost action<br>Content of large<br>stones     | <br>1.00<br>1.00<br><br>0.50<br>0.01 | Very limited<br>Slope<br>Depth to soft<br>bedrock<br>Cutbanks cave<br>Content of large<br>stones | <br>1.00<br>1.00<br><br>0.10<br>0.01 | Very limited<br>Slope<br>Depth to bedrock<br>Droughty<br>Gravel content<br>Content of large<br>stones | <br>1.00<br>1.00<br>0.99<br>0.22<br>0.01 |
| 164:<br>Rock outcrop-----   | 90                        | Not rated                                                                                           |                                      | Not rated                                                                                        |                                      | Not rated                                                                                             |                                          |
| 165:<br>Rock outcrop-----   | 50                        | Not rated                                                                                           |                                      | Not rated                                                                                        |                                      | Not rated                                                                                             |                                          |
| Starley Family-----         | 30                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                                 | <br>1.00<br>0.50<br>0.17             | Very limited<br>Slope<br>Content of large<br>stones<br>Cutbanks cave                             | <br>1.00<br>0.17<br>0.10             | Very limited<br>Slope<br>Droughty<br>Content of large<br>stones                                       | <br>1.00<br>1.00<br>1.00                 |
| 166:<br>Sessions-----       | 60                        | Very limited<br>Low strength<br>Shrink-swell<br>Frost action                                        | <br>1.00<br>1.00<br>0.50             | Very limited<br>Cutbanks cave<br>Too clayey                                                      | <br>1.00<br>0.03                     | Somewhat limited<br>Content of large<br>stones                                                        | <br>0.01                                 |
| Haydenfork-----             | 25                        | Very limited<br>Ponding<br>Frost action<br>Depth to<br>saturated zone<br>Shrink-swell               | <br>1.00<br>1.00<br>1.00<br>0.50     | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Cutbanks cave                           | <br>1.00<br>1.00<br>1.00             | Very limited<br>Ponding<br>Depth to<br>saturated zone                                                 | <br>1.00<br>1.00                         |
| 167:<br>Sessions-----       | 55                        | Very limited<br>Low strength<br>Shrink-swell<br>Frost action                                        | <br>1.00<br>1.00<br>0.50             | Very limited<br>Cutbanks cave<br>Too clayey                                                      | <br>1.00<br>0.03                     | Somewhat limited<br>Content of large<br>stones                                                        | <br>0.01                                 |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                            |                                  | Shallow excavations                                  |                          | Lawns and landscaping                                   |                  |
|-----------------------------|---------------------------|-----------------------------------------------------------------------|----------------------------------|------------------------------------------------------|--------------------------|---------------------------------------------------------|------------------|
|                             |                           | Rating class and<br>limiting features                                 | Value                            | Rating class and<br>limiting features                | Value                    | Rating class and<br>limiting features                   | Value            |
| 167:<br>Skutum-----         | 30                        | Very limited<br>Low strength<br>Shrink-swell<br>Frost action          | <br>1.00<br>0.50<br>0.50         | Very limited<br>Cutbanks cave                        | <br>1.00                 | Not limited                                             |                  |
| 168:<br>Sessions-----       | 60                        | Very limited<br>Low strength<br>Shrink-swell<br>Frost action<br>Slope | <br>1.00<br>1.00<br>0.50<br>0.16 | Very limited<br>Cutbanks cave<br>Slope<br>Too clayey | <br>1.00<br>0.16<br>0.03 | Somewhat limited<br>Slope<br>Content of large<br>stones | <br>0.16<br>0.01 |
| Uinta-----                  | 25                        | Very limited<br>Slope<br>Shrink-swell<br>Frost action                 | <br>1.00<br>0.50<br>0.50         | Very limited<br>Cutbanks cave<br>Slope               | <br>1.00<br>1.00         | Very limited<br>Slope<br>Content of large<br>stones     | <br>1.00<br>0.84 |
| 169:<br>Skutum-----         | 85                        | Very limited<br>Low strength<br>Shrink-swell<br>Frost action<br>Slope | <br>1.00<br>0.50<br>0.50<br>0.16 | Very limited<br>Cutbanks cave<br>Slope               | <br>1.00<br>0.16         | Somewhat limited<br>Slope                               | <br>0.16         |
| 170:<br>Skutum-----         | 85                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action | <br>1.00<br>1.00<br>0.50<br>0.50 | Very limited<br>Slope<br>Cutbanks cave               | <br>1.00<br>1.00         | Very limited<br>Slope                                   | <br>1.00         |
| 171:<br>Skutum-----         | 85                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action | <br>1.00<br>1.00<br>0.50<br>0.50 | Very limited<br>Slope<br>Cutbanks cave               | <br>1.00<br>1.00         | Very limited<br>Slope                                   | <br>1.00         |
| 172:<br>Skutum-----         | 60                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action | <br>1.00<br>1.00<br>0.50<br>0.50 | Very limited<br>Slope<br>Cutbanks cave               | <br>1.00<br>1.00         | Very limited<br>Slope                                   | <br>1.00         |
| Uinta-----                  | 25                        | Very limited<br>Slope<br>Shrink-swell<br>Frost action                 | <br>1.00<br>0.50<br>0.50         | Very limited<br>Slope<br>Cutbanks cave               | <br>1.00<br>1.00         | Very limited<br>Slope<br>Content of large<br>stones     | <br>1.00<br>0.84 |
| 173:<br>Skutum-----         | 60                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action | <br>1.00<br>1.00<br>0.50<br>0.50 | Very limited<br>Slope<br>Cutbanks cave               | <br>1.00<br>1.00         | Very limited<br>Slope                                   | <br>1.00         |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                                             |                                      | Shallow excavations                                                     |                      | Lawns and landscaping                                                                    |                      |
|-----------------------------|---------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                                                                  | Value                                | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                                    | Value                |
| 173:<br>Uinta-----          | 25                        | Very limited<br>Slope<br>Shrink-swell<br>Frost action                                                  | 1.00<br>0.50<br>0.50                 | Very limited<br>Slope<br>Cutbanks cave                                  | 1.00<br>1.00         | Very limited<br>Slope<br>Content of large<br>stones                                      | 1.00<br>0.84         |
| 174:<br>Snyderville-----    | 85                        | Somewhat limited<br>Frost action<br>Content of large<br>stones                                         | 0.50<br>0.18                         | Very limited<br>Cutbanks cave<br>Content of large<br>stones             | 1.00<br>0.18         | Somewhat limited<br>Content of large<br>stones<br>Droughty                               | 0.92<br>0.04         |
| 175:<br>Snyderville-----    | 85                        | Somewhat limited<br>Frost action<br>Content of large<br>stones                                         | 0.50<br>0.18                         | Very limited<br>Cutbanks cave<br>Content of large<br>stones             | 1.00<br>0.18         | Somewhat limited<br>Content of large<br>stones<br>Droughty                               | 0.92<br>0.04         |
| 176:<br>Snyderville-----    | 85                        | Somewhat limited<br>Frost action                                                                       | 0.50                                 | Very limited<br>Cutbanks cave                                           | 1.00                 | Somewhat limited<br>Gravel content<br>Droughty<br>Content of large<br>stones             | 0.16<br>0.04<br>0.03 |
| 177:<br>Uinta-----          | 55                        | Very limited<br>Slope<br>Shrink-swell<br>Frost action                                                  | 1.00<br>0.50<br>0.50                 | Very limited<br>Cutbanks cave<br>Slope                                  | 1.00<br>1.00         | Very limited<br>Slope<br>Content of large<br>stones                                      | 1.00<br>0.84         |
| Duchesne-----               | 30                        | Very limited<br>Slope<br>Frost action<br>Content of large<br>stones                                    | 1.00<br>0.50<br>0.30                 | Very limited<br>Slope<br>Content of large<br>stones<br>Cutbanks cave    | 1.00<br>0.30<br>0.10 | Very limited<br>Content of large<br>stones<br>Slope<br>Droughty                          | 1.00<br>1.00<br>0.17 |
| 178:<br>Wanship-----        | 90                        | Somewhat limited<br>Frost action<br>Flooding<br>Depth to<br>saturated zone                             | 0.50<br>0.40<br>0.06                 | Very limited<br>Cutbanks cave<br>Depth to<br>saturated zone             | 1.00<br>1.00         | Somewhat limited<br>Depth to<br>saturated zone<br>Content of large<br>stones             | 0.06<br>0.01         |
| 179:<br>Wanship-----        | 55                        | Somewhat limited<br>Frost action<br>Flooding<br>Depth to<br>saturated zone                             | 0.50<br>0.40<br>0.06                 | Very limited<br>Cutbanks cave<br>Depth to<br>saturated zone             | 1.00<br>1.00         | Somewhat limited<br>Depth to<br>saturated zone<br>Content of large<br>stones             | 0.06<br>0.01         |
| Kovich-----                 | 30                        | Very limited<br>Frost action<br>Flooding<br>Low strength<br>Depth to<br>saturated zone<br>Shrink-swell | 1.00<br>1.00<br>1.00<br>0.75<br>0.50 | Very limited<br>Depth to<br>saturated zone<br>Cutbanks cave<br>Flooding | 1.00<br>1.00<br>0.60 | Somewhat limited<br>Depth to<br>saturated zone<br>Flooding<br>Content of large<br>stones | 0.75<br>0.60<br>0.01 |

Table 11B.--Building site development--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Local roads and<br>streets                                                                          |                                              | Shallow excavations                                                                                                |                                                  | Lawns and landscaping                                           |                              |
|-----------------------------|---------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                                               | Value                                        | Rating class and<br>limiting features                                                                              | Value                                            | Rating class and<br>limiting features                           | Value                        |
| 180:<br>Yeates Hollow-----  | 55                        | Very limited<br>Low strength<br>Content of large<br>stones<br>Shrink-swell<br>Frost action<br>Slope | <br>1.00<br>0.85<br><br>0.50<br>0.50<br>0.04 | Somewhat limited<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Too clayey<br>Cutbanks cave<br>Slope | <br>0.93<br><br>0.85<br><br>0.28<br>0.10<br>0.04 | Very limited<br>Content of large<br>stones<br>Slope<br>Droughty | <br>1.00<br><br>0.04<br>0.01 |
| Henefer-----                | 30                        | Very limited<br>Low strength<br>Shrink-swell<br>Frost action<br>Slope                               | <br>1.00<br>0.50<br>0.50<br>0.04             | Very limited<br>Cutbanks cave<br>Slope<br>Too clayey                                                               | <br>1.00<br>0.04<br>0.03                         | Somewhat limited<br>Gravel content<br>Slope                     | <br>0.25<br>0.04             |
| 181:<br>Yeates Hollow-----  | 55                        | Very limited<br>Slope<br>Low strength<br>Content of large<br>stones<br>Shrink-swell<br>Frost action | <br>1.00<br>1.00<br>0.85<br><br>0.50<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Too clayey<br>Cutbanks cave     | <br>1.00<br>0.93<br><br>0.85<br><br>0.28<br>0.10 | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty | <br>1.00<br>1.00<br><br>0.01 |
| Henefer-----                | 30                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                               | <br>1.00<br>1.00<br>0.50<br>0.50             | Very limited<br>Slope<br>Cutbanks cave<br>Too clayey                                                               | <br>1.00<br>1.00<br>0.03                         | Very limited<br>Slope<br>Gravel content                         | <br>1.00<br>0.25             |
| 182:<br>Yeates Hollow-----  | 55                        | Very limited<br>Slope<br>Low strength<br>Content of large<br>stones<br>Shrink-swell<br>Frost action | <br>1.00<br>1.00<br>0.85<br><br>0.50<br>0.50 | Very limited<br>Slope<br>Depth to hard<br>bedrock<br>Content of large<br>stones<br>Too clayey<br>Cutbanks cave     | <br>1.00<br>0.93<br><br>0.85<br><br>0.28<br>0.10 | Very limited<br>Slope<br>Content of large<br>stones<br>Droughty | <br>1.00<br>1.00<br><br>0.01 |
| Henefer-----                | 30                        | Very limited<br>Slope<br>Low strength<br>Shrink-swell<br>Frost action                               | <br>1.00<br>1.00<br>0.50<br>0.50             | Very limited<br>Slope<br>Cutbanks cave<br>Too clayey                                                               | <br>1.00<br>1.00<br>0.03                         | Very limited<br>Slope<br>Gravel content                         | <br>1.00<br>0.25             |
| 183:<br>Water-----          | 100                       | Not rated                                                                                           |                                              | Not rated                                                                                                          |                                                  | Not rated                                                       |                              |
| 184:<br>Dams-----           | 100                       | Not rated                                                                                           |                                              | Not rated                                                                                                          |                                                  | Not rated                                                       |                              |

Table 12A.--Sanitary facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields                                        |                      | Sewage lagoons                                                                             |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                                      | Value                        |
| 101:<br>Agassiz-----        | 60                        | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones | 1.00<br>1.00<br>1.00 | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones<br>Seepage | 1.00<br>1.00<br>1.00<br>0.53 |
| Rock outcrop-----           | 25                        | Not rated                                                               |                      | Not rated                                                                                  |                              |
| 102:<br>Ant Flat-----       | 85                        | Very limited<br>Restricted<br>permeability                              | 1.00                 | Somewhat limited<br>Slope                                                                  | 0.67                         |
| 103:<br>Ant Flat-----       | 85                        | Very limited<br>Restricted<br>permeability<br>Slope                     | 1.00<br>0.63         | Very limited<br>Slope                                                                      | 1.00                         |
| 104:<br>Ant Flat-----       | 90                        | Very limited<br>Restricted<br>permeability<br>Slope                     | 1.00<br>1.00         | Very limited<br>Slope                                                                      | 1.00                         |
| 105:<br>Ant Flat-----       | 40                        | Very limited<br>Restricted<br>permeability<br>Slope                     | 1.00<br>1.00         | Very limited<br>Slope                                                                      | 1.00                         |
| Henefer-----                | 30                        | Very limited<br>Restricted<br>permeability<br>Slope                     | 1.00<br>1.00         | Very limited<br>Slope                                                                      | 1.00                         |
| Skutumpah-----              | 20                        | Very limited<br>Restricted<br>permeability<br>Slope<br>Depth to bedrock | 1.00<br>1.00<br>0.47 | Very limited<br>Slope<br>Seepage<br>Depth to soft<br>bedrock                               | 1.00<br>0.53<br>0.05         |
| 106:<br>Ayoub-----          | 85                        | Very limited<br>Restricted<br>permeability<br>Depth to bedrock<br>Slope | 1.00<br>1.00<br>0.04 | Very limited<br>Depth to hard<br>bedrock<br>Slope                                          | 1.00<br>1.00                 |



Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields                                                                      |                                  | Sewage lagoons                                                                  |                          |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------|--------------------------|
|                             |                           | Rating class and<br>limiting features                                                                 | Value                            | Rating class and<br>limiting features                                           | Value                    |
| 107:<br>Ayoub-----          | 45                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Depth to bedrock                               | <br>1.00<br>1.00<br>1.00         | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | <br>1.00<br>1.00         |
| Dunford-----                | 20                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Depth to bedrock                               | <br>1.00<br>1.00<br>1.00         | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | <br>1.00<br>1.00         |
| Melling-----                | 20                        | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones                               | <br>1.00<br>1.00<br>0.63         | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones | <br>1.00<br>1.00<br>1.00 |
| 108:<br>Ayoub-----          | 45                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Depth to bedrock                               | <br>1.00<br>1.00<br>1.00         | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | <br>1.00<br>1.00         |
| Dunford-----                | 20                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Depth to bedrock                               | <br>1.00<br>1.00<br>1.00         | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | <br>1.00<br>1.00         |
| Melling-----                | 20                        | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones                               | <br>1.00<br>1.00<br>0.63         | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones | <br>1.00<br>1.00<br>1.00 |
| 109:<br>Cluff-----          | 85                        | Very limited<br>Restricted<br>permeability<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | <br>1.00<br>1.00<br>0.59<br>0.03 | Very limited<br>Slope<br>Seepage<br>Depth to hard<br>bedrock                    | <br>1.00<br>0.53<br>0.13 |
| 110:<br>Cluff-----          | 85                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Depth to bedrock<br>Content of large<br>stones | <br>1.00<br>1.00<br>0.59<br>0.03 | Very limited<br>Slope<br>Seepage<br>Depth to hard<br>bedrock                    | <br>1.00<br>0.53<br>0.13 |

Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields      |       | Sewage lagoons                        |       |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 111:<br>Crandall-----       | 90                        | Very limited                          |       | Somewhat limited                      |       |
|                             |                           | Restricted                            | 1.00  | Slope                                 | 0.67  |
|                             |                           | permeability                          |       | Seepage                               | 0.53  |
|                             |                           | Depth to bedrock                      | 0.52  | Depth to hard<br>bedrock              | 0.08  |
| 112:<br>Crandall-----       | 55                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted                            | 1.00  | Slope                                 | 1.00  |
|                             |                           | permeability                          |       | Seepage                               | 0.53  |
|                             |                           | Slope                                 | 1.00  | Depth to hard<br>bedrock              | 0.08  |
|                             |                           | Depth to bedrock                      | 0.52  |                                       |       |
| Lucky Star-----             | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Seepage                               | 1.00  |
|                             |                           | Restricted                            | 0.46  | Slope                                 | 1.00  |
|                             |                           | permeability                          |       |                                       |       |
|                             |                           | Content of large<br>stones            | 0.03  |                                       |       |
| 113:<br>Crandall-----       | 50                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted                            | 1.00  | Seepage                               | 0.53  |
|                             |                           | permeability                          |       | Depth to hard<br>bedrock              | 0.08  |
|                             |                           | Depth to bedrock                      | 0.52  |                                       |       |
| Lucky Star-----             | 20                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted                            | 0.46  | Seepage                               | 1.00  |
|                             |                           | permeability                          |       |                                       |       |
|                             |                           | Content of large<br>stones            | 0.03  |                                       |       |
| Starley Family-----         | 15                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted                            | 1.00  | Slope                                 | 1.00  |
|                             |                           | permeability                          |       | Content of large<br>stones            | 1.00  |
|                             |                           | Slope                                 | 1.00  | Seepage                               | 0.53  |
|                             |                           | Content of large<br>stones            | 0.17  |                                       |       |
| 114:<br>Crandall-----       | 50                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted                            | 1.00  | Slope                                 | 1.00  |
|                             |                           | permeability                          |       | Seepage                               | 0.53  |
|                             |                           | Slope                                 | 1.00  | Depth to hard<br>bedrock              | 0.08  |
|                             |                           | Depth to bedrock                      | 0.52  |                                       |       |
| Starley Family-----         | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted                            | 1.00  | Slope                                 | 1.00  |
|                             |                           | permeability                          |       | Content of large<br>stones            | 1.00  |
|                             |                           | Slope                                 | 1.00  | Seepage                               | 0.53  |
|                             |                           | Content of large<br>stones            | 0.17  |                                       |       |
| Rock outcrop-----           | 10                        | Not rated                             |       | Not rated                             |       |
| 115:<br>Dastrup-----        | 90                        | Very limited                          |       | Somewhat limited                      |       |
|                             |                           | Restricted                            | 1.00  | Slope                                 | 0.33  |
|                             |                           | permeability                          |       |                                       |       |

Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields                                                      |                      | Sewage lagoons                                                            |                              |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                                 | Value                | Rating class and<br>limiting features                                     | Value                        |
| 116:<br>Dastrup-----        | 85                        | Very limited<br>Restricted<br>permeability<br>Slope                                   | 1.00<br>0.16         | Very limited<br>Slope                                                     | 1.00                         |
| 117:<br>Dastrup-----        | 85                        | Very limited<br>Slope<br>Restricted<br>permeability                                   | 1.00<br>1.00         | Very limited<br>Slope                                                     | 1.00                         |
| 118:<br>Dromedary-----      | 70                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones     | 1.00<br>0.46<br>0.33 | Very limited<br>Slope<br>Seepage<br>Content of large<br>stones            | 1.00<br>1.00<br>0.81         |
| Rock outcrop-----           | 15                        | Not rated                                                                             |                      | Not rated                                                                 |                              |
| 119:<br>Duchesne-----       | 85                        | Somewhat limited<br>Restricted<br>permeability<br>Content of large<br>stones<br>Slope | 0.46<br>0.30<br>0.16 | Very limited<br>Seepage<br>Slope<br>Content of large<br>stones            | 1.00<br>1.00<br>0.70         |
| 120:<br>Duchesne-----       | 85                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones     | 1.00<br>0.46<br>0.30 | Very limited<br>Slope<br>Seepage<br>Content of large<br>stones            | 1.00<br>1.00<br>0.70         |
| 121:<br>Duchesne-----       | 85                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones     | 1.00<br>0.46<br>0.30 | Very limited<br>Slope<br>Seepage<br>Content of large<br>stones            | 1.00<br>1.00<br>0.70         |
| 122:<br>Duchesne-----       | 60                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones     | 1.00<br>0.46<br>0.30 | Very limited<br>Seepage<br>Slope<br>Content of large<br>stones            | 1.00<br>1.00<br>0.70         |
| Haydenfork-----             | 25                        | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Restricted<br>permeability   | 1.00<br>1.00<br>1.00 | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Seepage<br>Slope | 1.00<br>1.00<br>0.53<br>0.01 |

Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields                                                     |                      | Sewage lagoons                                                                  |                              |
|-----------------------------|---------------------------|--------------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                                | Value                | Rating class and<br>limiting features                                           | Value                        |
| 123:<br>Dumps, Mines-----   | 100                       | Not rated                                                                            |                      | Not rated                                                                       |                              |
| 124:<br>Dunford-----        | 45                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Depth to bedrock              | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br>1.00                 |
| Ayoub-----                  | 20                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Depth to bedrock              | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br>1.00                 |
| Melling-----                | 20                        | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones              | 1.00<br>1.00<br>0.63 | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones | 1.00<br>1.00<br>1.00         |
| 125:<br>Dunford-----        | 45                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Depth to bedrock              | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br>1.00                 |
| Ayoub-----                  | 20                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Depth to bedrock              | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br>1.00                 |
| Melling-----                | 20                        | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones              | 1.00<br>1.00<br>0.63 | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones | 1.00<br>1.00<br>1.00         |
| 126:<br>Echocreek-----      | 85                        | Somewhat limited<br>Restricted<br>permeability                                       | 0.46                 | Somewhat limited<br>Slope<br>Seepage                                            | 0.67<br>0.53                 |
| 127:<br>Echocreek-----      | 65                        | Somewhat limited<br>Restricted<br>permeability                                       | 0.46                 | Somewhat limited<br>Slope<br>Seepage                                            | 0.91<br>0.53                 |
| Kovich-----                 | 20                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Restricted<br>permeability | 1.00<br>1.00<br>1.00 | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Seepage<br>Slope      | 1.00<br>1.00<br>0.53<br>0.01 |

Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields                                        |                      | Sewage lagoons                                                                             |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                                                      | Value                        |
| 128:<br>Fewkes-----         | 85                        | Very limited<br>Restricted<br>permeability                              | 1.00                 | Somewhat limited<br>Slope<br>Seepage                                                       | 0.67<br>0.28                 |
| 129:<br>Fewkes-----         | 85                        | Very limited<br>Restricted<br>permeability<br>Slope                     | 1.00<br>0.63         | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.28                 |
| 130:<br>Fewkes-----         | 85                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>1.00         | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.28                 |
| 131:<br>Fewkes-----         | 60                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>1.00         | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.28                 |
| Heiners-----                | 25                        | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 | Very limited<br>Depth to soft<br>bedrock<br>Slope<br>Seepage<br>Content of large<br>stones | 1.00<br>1.00<br>0.53<br>0.15 |
| 132:<br>Fewkes-----         | 55                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>1.00         | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.28                 |
| Hades-----                  | 30                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>1.00         | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.53                 |
| 133:<br>Fewkes-----         | 55                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>1.00         | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.28                 |
| Hades-----                  | 30                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>1.00         | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.53                 |
| 134:<br>Fewkes-----         | 55                        | Very limited<br>Restricted<br>permeability<br>Slope                     | 1.00<br>0.16         | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.28                 |

Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields      |       | Sewage lagoons                        |       |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 134:<br>Yeates Hollow-----  | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted permeability               | 1.00  | Content of large stones               | 1.00  |
|                             |                           | Depth to bedrock                      | 0.98  | Slope                                 | 1.00  |
|                             |                           | Content of large stones               | 0.85  | Depth to hard bedrock                 | 0.93  |
|                             |                           | Slope                                 | 0.04  |                                       |       |
| 135:<br>Fewkes-----         | 55                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted permeability               | 1.00  | Seepage                               | 0.28  |
| Yeates Hollow-----          | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted permeability               | 1.00  | Slope                                 | 1.00  |
|                             |                           | Slope                                 | 1.00  | Content of large stones               | 1.00  |
|                             |                           | Depth to bedrock                      | 0.98  | Depth to hard bedrock                 | 0.93  |
|                             |                           | Content of large stones               | 0.85  |                                       |       |
| 136:<br>Hades-----          | 50                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted permeability               | 1.00  | Seepage                               | 0.53  |
| Agassiz-----                | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Depth to bedrock                      | 1.00  | Depth to hard bedrock                 | 1.00  |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Content of large stones               | 1.00  | Content of large stones               | 1.00  |
|                             |                           |                                       |       | Seepage                               | 0.53  |
| Rock outcrop-----           | 10                        | Not rated                             |       | Not rated                             |       |
| 137:<br>Hades-----          | 55                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted permeability               | 1.00  | Seepage                               | 0.53  |
| Fewkes-----                 | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted permeability               | 1.00  | Seepage                               | 0.28  |
| 138:<br>Hades-----          | 55                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted permeability               | 1.00  | Seepage                               | 0.53  |
| Fewkes-----                 | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted permeability               | 1.00  | Seepage                               | 0.28  |



Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields                                                                      |                              | Sewage lagoons                                                                             |                                      |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                                 | Value                        | Rating class and<br>limiting features                                                      | Value                                |
| 139:<br>Harter-----         | 85                        | Very limited<br>Restricted<br>permeability                                                            | 1.00                         | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.53                         |
| 140:<br>Heiners-----        | 60                        | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones                               | 1.00<br>1.00<br>0.01         | Very limited<br>Depth to soft<br>bedrock<br>Slope<br>Seepage<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>0.53<br>0.15 |
| Fewkes-----                 | 25                        | Very limited<br>Slope<br>Restricted<br>permeability                                                   | 1.00<br>1.00                 | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.28                         |
| 141:<br>Heiners-----        | 35                        | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones                               | 1.00<br>1.00<br>0.01         | Very limited<br>Depth to soft<br>bedrock<br>Slope<br>Seepage<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>0.53<br>0.15 |
| Fewkes-----                 | 25                        | Very limited<br>Slope<br>Restricted<br>permeability                                                   | 1.00<br>1.00                 | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.28                         |
| Hades-----                  | 25                        | Very limited<br>Slope<br>Restricted<br>permeability                                                   | 1.00<br>1.00                 | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.53                         |
| 142:<br>Henefer-----        | 45                        | Very limited<br>Slope<br>Restricted<br>permeability                                                   | 1.00<br>1.00                 | Very limited<br>Slope                                                                      | 1.00                                 |
| Harter-----                 | 40                        | Very limited<br>Restricted<br>permeability<br>Slope                                                   | 1.00<br>1.00                 | Very limited<br>Slope<br>Seepage                                                           | 1.00<br>0.53                         |
| 143:<br>Horrocks-----       | 65                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.30<br>0.27 | Very limited<br>Slope<br>Content of large<br>stones<br>Seepage                             | 1.00<br>1.00<br>0.53                 |

Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields      |       | Sewage lagoons                        |       |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 143:<br>Agassiz-----        | 20                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Depth to bedrock                      | 1.00  | Depth to hard                         | 1.00  |
|                             |                           | Slope                                 | 1.00  | bedrock                               |       |
|                             |                           | Content of large                      | 1.00  | Slope                                 | 1.00  |
|                             |                           | stones                                |       | Content of large                      | 1.00  |
|                             |                           |                                       |       | stones                                |       |
|                             |                           |                                       |       | Seepage                               | 0.53  |
| 144:<br>Horrocks-----       | 60                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted                            | 1.00  | Content of large                      | 1.00  |
|                             |                           | permeability                          |       | stones                                |       |
|                             |                           | Depth to bedrock                      | 0.30  | Seepage                               | 0.53  |
|                             |                           | Content of large                      | 0.27  |                                       |       |
|                             |                           | stones                                |       |                                       |       |
| Cutoff-----                 | 25                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Depth to bedrock                      | 1.00  | Depth to hard                         | 1.00  |
|                             |                           | Restricted                            | 0.46  | bedrock                               |       |
|                             |                           | permeability                          |       | Seepage                               | 0.53  |
| 145:<br>Horrocks-----       | 60                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted                            | 1.00  | Content of large                      | 1.00  |
|                             |                           | permeability                          |       | stones                                |       |
|                             |                           | Depth to bedrock                      | 0.30  | Seepage                               | 0.53  |
|                             |                           | Content of large                      | 0.27  |                                       |       |
|                             |                           | stones                                |       |                                       |       |
| Cutoff-----                 | 25                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Depth to bedrock                      | 1.00  | Depth to hard                         | 1.00  |
|                             |                           | Restricted                            | 0.46  | bedrock                               |       |
|                             |                           | permeability                          |       | Seepage                               | 0.53  |
| 146:<br>Horrocks-----       | 65                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted                            | 1.00  | Content of large                      | 1.00  |
|                             |                           | permeability                          |       | stones                                |       |
|                             |                           | Depth to bedrock                      | 0.30  | Seepage                               | 0.53  |
|                             |                           | Content of large                      | 0.27  |                                       |       |
|                             |                           | stones                                |       |                                       |       |
| Hades-----                  | 20                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted                            | 1.00  | Seepage                               | 0.53  |
|                             |                           | permeability                          |       |                                       |       |
| 147:<br>Hovarka-----        | 45                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Flooding                              | 1.00  | Flooding                              | 1.00  |
|                             |                           | Depth to                              | 1.00  | Seepage                               | 1.00  |
|                             |                           | saturated zone                        |       | Depth to                              | 1.00  |
|                             |                           | Filtering                             | 1.00  | saturated zone                        |       |
|                             |                           | capacity                              |       |                                       |       |
|                             |                           | Restricted                            | 0.46  |                                       |       |
|                             |                           | permeability                          |       |                                       |       |

Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields      |       | Sewage lagoons                        |       |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 147:<br>Millcreek-----      | 40                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Filtering capacity                    | 1.00  | Seepage                               | 1.00  |
|                             |                           | Depth to saturated zone               | 0.99  | Depth to saturated zone               | 0.60  |
|                             |                           | Restricted permeability               | 0.46  | Flooding                              | 0.40  |
|                             |                           | Flooding                              | 0.40  | Slope                                 | 0.01  |
| 148:<br>Jana-----           | 50                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Depth to bedrock                      | 1.00  | Depth to soft bedrock                 | 1.00  |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Content of large stones               | 0.02  |                                       |       |
| Richsum-----                | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Depth to bedrock                      | 0.69  | Seepage                               | 0.53  |
|                             |                           | Restricted permeability               | 0.46  | Depth to soft bedrock                 | 0.26  |
| Rock outcrop-----           | 10                        | Not rated                             |       | Not rated                             |       |
| 149:<br>Kovich-----         | 45                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Flooding                              | 1.00  | Flooding                              | 1.00  |
|                             |                           | Depth to saturated zone               | 1.00  | Depth to saturated zone               | 1.00  |
|                             |                           | Restricted permeability               | 1.00  | Seepage                               | 0.53  |
|                             |                           |                                       |       | Slope                                 | 0.01  |
| Toddspan-----               | 40                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Flooding                              | 1.00  | Flooding                              | 1.00  |
|                             |                           | Depth to saturated zone               | 1.00  | Seepage                               | 1.00  |
|                             |                           | Filtering capacity                    | 1.00  | Depth to saturated zone               | 1.00  |
|                             |                           | Restricted permeability               | 1.00  | Slope                                 | 0.01  |
| 150:<br>Lucky Star-----     | 85                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted permeability               | 0.46  | Seepage                               | 1.00  |
|                             |                           | Content of large stones               | 0.03  |                                       |       |
| 151:<br>Lucky Star-----     | 85                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted permeability               | 0.46  | Seepage                               | 1.00  |
|                             |                           | Content of large stones               | 0.03  |                                       |       |

Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields      |       | Sewage lagoons                        |       |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 152:                        |                           |                                       |       |                                       |       |
| Lucky Star-----             | 55                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted                            | 0.46  | Seepage                               | 1.00  |
|                             |                           | permeability                          |       |                                       |       |
|                             |                           | Content of large                      | 0.03  |                                       |       |
|                             |                           | stones                                |       |                                       |       |
| Dromedary-----              | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted                            | 0.46  | Seepage                               | 1.00  |
|                             |                           | permeability                          |       | Content of large                      | 0.81  |
|                             |                           | Content of large                      | 0.33  | stones                                |       |
|                             |                           | stones                                |       |                                       |       |
| 153:                        |                           |                                       |       |                                       |       |
| Lucky Star-----             | 55                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted                            | 0.46  | Seepage                               | 1.00  |
|                             |                           | permeability                          |       |                                       |       |
|                             |                           | Content of large                      | 0.03  |                                       |       |
|                             |                           | stones                                |       |                                       |       |
| Fewkes-----                 | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Restricted                            | 1.00  | Seepage                               | 0.28  |
|                             |                           | permeability                          |       |                                       |       |
| 154:                        |                           |                                       |       |                                       |       |
| Manila-----                 | 50                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted                            | 1.00  | Slope                                 | 1.00  |
|                             |                           | permeability                          |       | Seepage                               | 0.53  |
|                             |                           | Slope                                 | 0.63  |                                       |       |
| Ant Flat-----               | 35                        | Very limited                          |       | Somewhat limited                      |       |
|                             |                           | Restricted                            | 1.00  | Slope                                 | 0.67  |
|                             |                           | permeability                          |       |                                       |       |
| 155:                        |                           |                                       |       |                                       |       |
| Manila-----                 | 50                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted                            | 1.00  | Slope                                 | 1.00  |
|                             |                           | permeability                          |       | Seepage                               | 0.53  |
|                             |                           | Slope                                 | 0.63  |                                       |       |
| Ant Flat-----               | 35                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted                            | 1.00  | Slope                                 | 1.00  |
|                             |                           | permeability                          |       |                                       |       |
|                             |                           | Slope                                 | 0.63  |                                       |       |
| 156:                        |                           |                                       |       |                                       |       |
| Manila-----                 | 50                        | Very limited                          |       | Somewhat limited                      |       |
|                             |                           | Restricted                            | 1.00  | Slope                                 | 0.67  |
|                             |                           | permeability                          |       | Seepage                               | 0.53  |
| Harter-----                 | 40                        | Very limited                          |       | Somewhat limited                      |       |
|                             |                           | Restricted                            | 1.00  | Slope                                 | 0.67  |
|                             |                           | permeability                          |       | Seepage                               | 0.53  |

Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields                                                  |                      | Sewage lagoons                                                                  |                      |
|-----------------------------|---------------------------|-----------------------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                                             | Value                | Rating class and<br>limiting features                                           | Value                |
| 157:<br>Manila-----         | 60                        | Very limited<br>Restricted<br>permeability<br>Slope                               | 1.00<br>0.63         | Very limited<br>Slope<br>Seepage                                                | 1.00<br>0.53         |
| Henefer-----                | 25                        | Very limited<br>Restricted<br>permeability<br>Slope                               | 1.00<br>0.63         | Very limited<br>Slope                                                           | 1.00                 |
| 158:<br>Melling-----        | 50                        | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones           | 1.00<br>1.00<br>0.63 | Very limited<br>Depth to hard<br>bedrock<br>Slope<br>Content of large<br>stones | 1.00<br>1.00<br>1.00 |
| Ayoub-----                  | 30                        | Very limited<br>Restricted<br>permeability<br>Depth to bedrock<br>Slope           | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to hard<br>bedrock                               | 1.00<br>1.00         |
| Rock outcrop-----           | 10                        | Not rated                                                                         |                      | Not rated                                                                       |                      |
| 159:<br>Parkcity-----       | 70                        | Very limited<br>Slope<br>Restricted<br>permeability                               | 1.00<br>0.46         | Very limited<br>Slope<br>Seepage                                                | 1.00<br>0.53         |
| Dromedary-----              | 20                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones | 1.00<br>0.46<br>0.33 | Very limited<br>Slope<br>Seepage<br>Content of large<br>stones                  | 1.00<br>1.00<br>0.81 |
| 160:<br>Parkcity-----       | 70                        | Very limited<br>Slope<br>Restricted<br>permeability                               | 1.00<br>0.46         | Very limited<br>Slope<br>Seepage                                                | 1.00<br>0.53         |
| Dromedary-----              | 20                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones | 1.00<br>0.46<br>0.33 | Very limited<br>Slope<br>Seepage<br>Content of large<br>stones                  | 1.00<br>1.00<br>0.81 |
| 161:<br>Pits, Gravel-----   | 100                       | Not rated                                                                         |                      | Not rated                                                                       |                      |
| 162:<br>Richsum-----        | 70                        | Somewhat limited<br>Depth to bedrock<br>Restricted<br>permeability<br>Slope       | 0.69<br>0.46<br>0.16 | Very limited<br>Slope<br>Seepage<br>Depth to soft<br>bedrock                    | 1.00<br>0.53<br>0.26 |

Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields      |       | Sewage lagoons                        |       |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 162:<br>Heiners-----        | 20                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Depth to bedrock                      | 1.00  | Depth to soft<br>bedrock              | 1.00  |
|                             |                           | Slope                                 | 0.16  | Slope                                 | 1.00  |
|                             |                           | Content of large<br>stones            | 0.01  | Seepage                               | 0.53  |
|                             |                           |                                       |       | Content of large<br>stones            | 0.15  |
| 163:<br>Richsum-----        | 60                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Depth to bedrock                      | 0.69  | Seepage                               | 0.53  |
|                             |                           | Restricted<br>permeability            | 0.46  | Depth to soft<br>bedrock              | 0.26  |
| Heiners-----                | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Depth to bedrock                      | 1.00  | Depth to soft<br>bedrock              | 1.00  |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Content of large<br>stones            | 0.01  | Seepage                               | 0.53  |
|                             |                           |                                       |       | Content of large<br>stones            | 0.15  |
| 164:<br>Rock outcrop-----   | 90                        | Not rated                             |       | Not rated                             |       |
| 165:<br>Rock outcrop-----   | 50                        | Not rated                             |       | Not rated                             |       |
| Starley Family-----         | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted<br>permeability            | 1.00  | Slope                                 | 1.00  |
|                             |                           | Slope                                 | 1.00  | Content of large<br>stones            | 1.00  |
|                             |                           | Content of large<br>stones            | 0.17  | Seepage                               | 0.53  |
| 166:<br>Sessions-----       | 60                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted<br>permeability            | 1.00  | Slope                                 | 1.00  |
| Haydenfork-----             | 25                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Ponding                               | 1.00  | Ponding                               | 1.00  |
|                             |                           | Depth to<br>saturated zone            | 1.00  | Depth to<br>saturated zone            | 1.00  |
|                             |                           | Restricted<br>permeability            | 1.00  | Seepage                               | 0.53  |
|                             |                           |                                       |       | Slope                                 | 0.01  |
| 167:<br>Sessions-----       | 55                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted<br>permeability            | 1.00  | Slope                                 | 1.00  |
| Skutum-----                 | 30                        | Very limited                          |       | Very limited                          |       |
|                             |                           | Restricted<br>permeability            | 1.00  | Slope                                 | 1.00  |
|                             |                           | Depth to bedrock                      | 0.47  | Seepage                               | 0.53  |
|                             |                           |                                       |       | Depth to soft<br>bedrock              | 0.05  |

Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields                                        |                      | Sewage lagoons                                               |                      |
|-----------------------------|---------------------------|-------------------------------------------------------------------------|----------------------|--------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                        | Value                |
| 168:<br>Sessions-----       | 60                        | Very limited<br>Restricted<br>permeability<br>Slope                     | 1.00<br>0.16         | Very limited<br>Slope                                        | 1.00                 |
| Uinta-----                  | 25                        | Very limited<br>Restricted<br>permeability<br>Slope                     | 1.00<br>1.00         | Very limited<br>Slope<br>Seepage                             | 1.00<br>1.00         |
| 169:<br>Skutum-----         | 85                        | Very limited<br>Restricted<br>permeability<br>Depth to bedrock<br>Slope | 1.00<br>0.47<br>0.16 | Very limited<br>Slope<br>Seepage<br>Depth to soft<br>bedrock | 1.00<br>0.53<br>0.05 |
| 170:<br>Skutum-----         | 85                        | Very limited<br>Restricted<br>permeability<br>Slope<br>Depth to bedrock | 1.00<br>1.00<br>0.47 | Very limited<br>Slope<br>Seepage<br>Depth to soft<br>bedrock | 1.00<br>0.53<br>0.05 |
| 171:<br>Skutum-----         | 85                        | Very limited<br>Restricted<br>permeability<br>Slope<br>Depth to bedrock | 1.00<br>1.00<br>0.47 | Very limited<br>Slope<br>Seepage<br>Depth to soft<br>bedrock | 1.00<br>0.53<br>0.05 |
| 172:<br>Skutum-----         | 60                        | Very limited<br>Restricted<br>permeability<br>Slope<br>Depth to bedrock | 1.00<br>1.00<br>0.47 | Very limited<br>Slope<br>Seepage<br>Depth to soft<br>bedrock | 1.00<br>0.53<br>0.05 |
| Uinta-----                  | 25                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>1.00         | Very limited<br>Slope<br>Seepage                             | 1.00<br>1.00         |
| 173:<br>Skutum-----         | 60                        | Very limited<br>Restricted<br>permeability<br>Slope<br>Depth to bedrock | 1.00<br>1.00<br>0.47 | Very limited<br>Slope<br>Seepage<br>Depth to soft<br>bedrock | 1.00<br>0.53<br>0.05 |
| Uinta-----                  | 25                        | Very limited<br>Slope<br>Restricted<br>permeability                     | 1.00<br>1.00         | Very limited<br>Slope<br>Seepage                             | 1.00<br>1.00         |



Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields                                                                  |                                  | Sewage lagoons                                                             |                                      |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                             | Value                            | Rating class and<br>limiting features                                      | Value                                |
| 174:<br>Snyderville-----    | 85                        | Very limited<br>Filtering<br>capacity<br>Restricted<br>permeability<br>Content of large<br>stones | <br>1.00<br><br>0.46<br><br>0.18 | Very limited<br>Seepage<br>Content of large<br>stones<br>Slope             | <br>1.00<br>0.43<br><br>0.09         |
| 175:<br>Snyderville-----    | 85                        | Very limited<br>Filtering<br>capacity<br>Restricted<br>permeability<br>Content of large<br>stones | <br>1.00<br><br>0.46<br><br>0.18 | Very limited<br>Seepage<br>Slope<br>Content of large<br>stones             | <br>1.00<br>1.00<br>0.43             |
| 176:<br>Snyderville-----    | 85                        | Very limited<br>Filtering<br>capacity<br>Restricted<br>permeability                               | <br>1.00<br><br>0.46             | Very limited<br>Seepage<br>Slope                                           | <br>1.00<br>0.09                     |
| 177:<br>Uinta-----          | 55                        | Very limited<br>Restricted<br>permeability<br>Slope                                               | <br>1.00<br><br>1.00             | Very limited<br>Slope<br>Seepage                                           | <br>1.00<br>1.00                     |
| Duchesne-----               | 30                        | Very limited<br>Slope<br>Restricted<br>permeability<br>Content of large<br>stones                 | <br>1.00<br>0.46<br><br>0.30     | Very limited<br>Slope<br>Seepage<br>Content of large<br>stones             | <br>1.00<br>1.00<br>0.70             |
| 178:<br>Wanship-----        | 90                        | Very limited<br>Depth to<br>saturated zone<br>Filtering<br>capacity<br>Flooding                   | <br>1.00<br><br>1.00<br><br>0.40 | Very limited<br>Seepage<br>Depth to<br>saturated zone<br>Flooding<br>Slope | <br>1.00<br>1.00<br><br>0.40<br>0.01 |
| 179:<br>Wanship-----        | 55                        | Very limited<br>Depth to<br>saturated zone<br>Filtering<br>capacity<br>Flooding                   | <br>1.00<br><br>1.00<br><br>0.40 | Very limited<br>Seepage<br>Depth to<br>saturated zone<br>Flooding<br>Slope | <br>1.00<br>1.00<br><br>0.40<br>0.01 |
| Kovich-----                 | 30                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Restricted<br>permeability              | <br>1.00<br>1.00<br><br>1.00     | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Seepage<br>Slope | <br>1.00<br>1.00<br><br>0.53<br>0.01 |

Table 12A.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Septic tank<br>absorption fields                                                                      |                              | Sewage lagoons                                                                  |                      |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------------------------|------------------------------|---------------------------------------------------------------------------------|----------------------|
|                             |                           | Rating class and<br>limiting features                                                                 | Value                        | Rating class and<br>limiting features                                           | Value                |
| 180:<br>Yeates Hollow-----  | 55                        | Very limited<br>Restricted<br>permeability<br>Depth to bedrock<br>Content of large<br>stones<br>Slope | 1.00<br>0.98<br>0.85<br>0.04 | Very limited<br>Content of large<br>stones<br>Slope<br>Depth to hard<br>bedrock | 1.00<br>1.00<br>0.93 |
| Henefer-----                | 30                        | Very limited<br>Restricted<br>permeability<br>Slope                                                   | 1.00<br>0.04                 | Very limited<br>Slope                                                           | 1.00                 |
| 181:<br>Yeates Hollow-----  | 55                        | Very limited<br>Restricted<br>permeability<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.98<br>0.85 | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to hard<br>bedrock | 1.00<br>1.00<br>0.93 |
| Henefer-----                | 30                        | Very limited<br>Slope<br>Restricted<br>permeability                                                   | 1.00<br>1.00                 | Very limited<br>Slope                                                           | 1.00                 |
| 182:<br>Yeates Hollow-----  | 55                        | Very limited<br>Restricted<br>permeability<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.98<br>0.85 | Very limited<br>Slope<br>Content of large<br>stones<br>Depth to hard<br>bedrock | 1.00<br>1.00<br>0.93 |
| Henefer-----                | 30                        | Very limited<br>Slope<br>Restricted<br>permeability                                                   | 1.00<br>1.00                 | Very limited<br>Slope                                                           | 1.00                 |
| 183:<br>Water-----          | 100                       | Not rated                                                                                             |                              | Not rated                                                                       |                      |
| 184:<br>Dams-----           | 100                       | Not rated                                                                                             |                              | Not rated                                                                       |                      |

Table 12B.--Sanitary facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                                             |                      | Area sanitary<br>landfill                 |              | Daily cover for<br>landfill                                                                  |                                      |
|-----------------------------|---------------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------|--------------|----------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features     | Value        | Rating class and<br>limiting features                                                        | Value                                |
| 101:<br>Agassiz-----        | 60                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock | 1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones                      | 1.00<br>1.00<br>1.00                 |
| Rock outcrop-----           | 25                        | Not rated                                                               |                      | Not rated                                 |              | Not rated                                                                                    |                                      |
| 102:<br>Ant Flat-----       | 85                        | Somewhat limited<br>Too clayey                                          | 0.50                 | Not limited                               |              | Somewhat limited<br>Too clayey                                                               | 0.50                                 |
| 103:<br>Ant Flat-----       | 85                        | Somewhat limited<br>Slope<br>Too clayey                                 | 0.63<br>0.50         | Somewhat limited<br>Slope                 | 0.63         | Somewhat limited<br>Slope<br>Too clayey                                                      | 0.63<br>0.50                         |
| 104:<br>Ant Flat-----       | 90                        | Very limited<br>Slope<br>Too clayey                                     | 1.00<br>0.50         | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey                                                          | 1.00<br>0.50                         |
| 105:<br>Ant Flat-----       | 40                        | Very limited<br>Slope<br>Too clayey                                     | 1.00<br>0.50         | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey                                                          | 1.00<br>0.50                         |
| Henefer-----                | 30                        | Very limited<br>Slope                                                   | 1.00                 | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey<br>Gravel content                                        | 1.00<br>1.00<br>0.09                 |
| Skutum-----                 | 20                        | Very limited<br>Depth to bedrock<br>Too clayey<br>Slope                 | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock | 1.00<br>0.05 | Very limited<br>Too clayey<br>Slope<br>Hard to compact<br>Depth to bedrock<br>Gravel content | 1.00<br>1.00<br>1.00<br>0.05<br>0.01 |
| 106:<br>Ayoub-----          | 85                        | Very limited<br>Depth to bedrock<br>Slope                               | 1.00<br>0.04         | Very limited<br>Depth to bedrock<br>Slope | 1.00<br>0.04 | Very limited<br>Depth to bedrock<br>Slope<br>Gravel content                                  | 1.00<br>0.04<br>0.01                 |
| 107:<br>Ayoub-----          | 45                        | Very limited<br>Slope<br>Depth to bedrock                               | 1.00<br>1.00         | Very limited<br>Slope<br>Depth to bedrock | 1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content                                  | 1.00<br>1.00<br>0.01                 |

Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                                                           |                                  | Area sanitary<br>landfill                 |                  | Daily cover for<br>landfill                                                                              |                                          |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                 | Value                            | Rating class and<br>limiting features     | Value            | Rating class and<br>limiting features                                                                    | Value                                    |
| 107:<br>Dunford-----        | 20                        | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey                               | <br>1.00<br>1.00<br>0.50         | Very limited<br>Slope<br>Depth to bedrock | <br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey<br>Gravel content                                | <br>1.00<br>1.00<br>0.50<br>0.01         |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones<br>Too clayey | <br>1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Slope<br>Depth to bedrock | <br>1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones<br>Too clayey<br>Gravel content  | <br>1.00<br>1.00<br>0.63<br>0.50<br>0.02 |
| 108:<br>Ayoub-----          | 45                        | Very limited<br>Slope<br>Depth to bedrock                                             | <br>1.00<br>1.00                 | Very limited<br>Slope<br>Depth to bedrock | <br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content                                              | <br>1.00<br>1.00<br>0.01                 |
| Dunford-----                | 20                        | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey                               | <br>1.00<br>1.00<br>0.50         | Very limited<br>Slope<br>Depth to bedrock | <br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey<br>Gravel content                                | <br>1.00<br>1.00<br>0.50<br>0.01         |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones<br>Too clayey | <br>1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Slope<br>Depth to bedrock | <br>1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones<br>Too clayey<br>Gravel content  | <br>1.00<br>1.00<br>0.63<br>0.50<br>0.02 |
| 109:<br>Cluff-----          | 85                        | Very limited<br>Depth to bedrock<br>Too clayey<br>Slope<br>Content of large<br>stones | <br>1.00<br>1.00<br>1.00<br>0.13 | Very limited<br>Slope<br>Depth to bedrock | <br>1.00<br>0.13 | Very limited<br>Too clayey<br>Slope<br>Hard to compact<br>Depth to bedrock<br>Content of large<br>stones | <br>1.00<br>1.00<br>1.00<br>0.13<br>0.13 |
| 110:<br>Cluff-----          | 85                        | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey<br>Content of large<br>stones | <br>1.00<br>1.00<br>1.00<br>0.13 | Very limited<br>Slope<br>Depth to bedrock | <br>1.00<br>0.13 | Very limited<br>Slope<br>Too clayey<br>Hard to compact<br>Depth to bedrock<br>Content of large<br>stones | <br>1.00<br>1.00<br>1.00<br>0.13<br>0.13 |
| 111:<br>Crandall-----       | 90                        | Very limited<br>Depth to bedrock<br>Too clayey<br>Content of large<br>stones          | <br>1.00<br>0.50<br>0.01         | Somewhat limited<br>Depth to bedrock      | <br>0.08         | Somewhat limited<br>Too clayey<br>Gravel content<br>Depth to bedrock<br>Content of large<br>stones       | <br>0.50<br>0.12<br>0.08<br>0.01         |

Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                                                           |                              | Area sanitary<br>landfill                 |              | Daily cover for<br>landfill                                                                             |                                      |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------|------------------------------|-------------------------------------------|--------------|---------------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                 | Value                        | Rating class and<br>limiting features     | Value        | Rating class and<br>limiting features                                                                   | Value                                |
| 112:<br>Crandall-----       | 55                        | Very limited<br>Depth to bedrock<br>Slope<br>Too clayey<br>Content of large<br>stones | 1.00<br>1.00<br>0.50<br>0.01 | Very limited<br>Slope<br>Depth to bedrock | 1.00<br>0.08 | Very limited<br>Slope<br>Too clayey<br>Gravel content<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>0.50<br>0.12<br>0.08<br>0.01 |
| Lucky Star-----             | 30                        | Very limited<br>Slope<br>Content of large<br>stones                                   | 1.00<br>0.14                 | Very limited<br>Seepage<br>Slope          | 1.00<br>1.00 | Very limited<br>Slope<br>Seepage<br>Content of large<br>stones<br>Gravel content                        | 1.00<br>0.52<br>0.14<br>0.06         |
| 113:<br>Crandall-----       | 50                        | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey<br>Content of large<br>stones | 1.00<br>1.00<br>0.50<br>0.01 | Very limited<br>Slope<br>Depth to bedrock | 1.00<br>0.08 | Very limited<br>Slope<br>Too clayey<br>Gravel content<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>0.50<br>0.12<br>0.08<br>0.01 |
| Lucky Star-----             | 20                        | Very limited<br>Slope<br>Content of large<br>stones                                   | 1.00<br>0.14                 | Very limited<br>Slope<br>Seepage          | 1.00<br>1.00 | Very limited<br>Slope<br>Seepage<br>Content of large<br>stones<br>Gravel content                        | 1.00<br>0.52<br>0.14<br>0.06         |
| Starley Family-----         | 15                        | Very limited<br>Slope<br>Content of large<br>stones                                   | 1.00<br>0.17                 | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Content of large<br>stones                                                     | 1.00<br>0.17                         |
| 114:<br>Crandall-----       | 50                        | Very limited<br>Depth to bedrock<br>Slope<br>Too clayey<br>Content of large<br>stones | 1.00<br>1.00<br>0.50<br>0.01 | Very limited<br>Slope<br>Depth to bedrock | 1.00<br>0.08 | Very limited<br>Slope<br>Too clayey<br>Gravel content<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>0.50<br>0.12<br>0.08<br>0.01 |
| Starley Family-----         | 30                        | Very limited<br>Slope<br>Content of large<br>stones                                   | 1.00<br>0.17                 | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Content of large<br>stones                                                     | 1.00<br>0.17                         |
| Rock outcrop-----           | 10                        | Not rated                                                                             |                              | Not rated                                 |              | Not rated                                                                                               |                                      |
| 115:<br>Dastrup-----        | 90                        | Not limited                                                                           |                              | Not limited                               |              | Not limited                                                                                             |                                      |
| 116:<br>Dastrup-----        | 85                        | Somewhat limited<br>Slope                                                             | 0.16                         | Somewhat limited<br>Slope                 | 0.16         | Somewhat limited<br>Slope                                                                               | 0.16                                 |

Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                             |                      | Area sanitary<br>landfill                             |              | Daily cover for<br>landfill                                               |                              |
|-----------------------------|---------------------------|---------------------------------------------------------|----------------------|-------------------------------------------------------|--------------|---------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                   | Value                | Rating class and<br>limiting features                 | Value        | Rating class and<br>limiting features                                     | Value                        |
| 117:<br>Dastrup-----        | 85                        | Very limited<br>Slope                                   | 1.00                 | Very limited<br>Slope                                 | 1.00         | Very limited<br>Slope                                                     | 1.00                         |
| 118:<br>Dromedary-----      | 70                        | Very limited<br>Slope<br>Content of large<br>stones     | 1.00<br>0.45         | Very limited<br>Slope<br>Seepage                      | 1.00<br>1.00 | Very limited<br>Slope<br>Content of large<br>stones                       | 1.00<br>0.45                 |
| Rock outcrop-----           | 15                        | Not rated                                               |                      | Not rated                                             |              | Not rated                                                                 |                              |
| 119:<br>Duchesne-----       | 85                        | Somewhat limited<br>Content of large<br>stones<br>Slope | 0.42<br>0.16         | Somewhat limited<br>Slope                             | 0.16         | Somewhat limited<br>Content of large<br>stones<br>Slope<br>Gravel content | 0.42<br>0.16<br>0.03         |
| 120:<br>Duchesne-----       | 85                        | Very limited<br>Slope<br>Content of large<br>stones     | 1.00<br>0.42         | Very limited<br>Slope                                 | 1.00         | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content     | 1.00<br>0.42<br>0.03         |
| 121:<br>Duchesne-----       | 85                        | Very limited<br>Slope<br>Content of large<br>stones     | 1.00<br>0.42         | Very limited<br>Slope                                 | 1.00         | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content     | 1.00<br>0.42<br>0.03         |
| 122:<br>Duchesne-----       | 60                        | Very limited<br>Slope<br>Content of large<br>stones     | 1.00<br>0.42         | Very limited<br>Slope                                 | 1.00         | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content     | 1.00<br>0.42<br>0.03         |
| Haydenfork-----             | 25                        | Very limited<br>Depth to<br>saturated zone<br>Ponding   | 1.00<br>1.00         | Very limited<br>Ponding<br>Depth to<br>saturated zone | 1.00<br>1.00 | Very limited<br>Ponding<br>Depth to<br>saturated zone                     | 1.00<br>1.00                 |
| 123:<br>Dumps, Mines-----   | 100                       | Not rated                                               |                      | Not rated                                             |              | Not rated                                                                 |                              |
| 124:<br>Dunford-----        | 45                        | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey | 1.00<br>1.00<br>0.50 | Very limited<br>Slope<br>Depth to bedrock             | 1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey<br>Gravel content | 1.00<br>1.00<br>0.50<br>0.01 |
| Ayoub-----                  | 20                        | Very limited<br>Slope<br>Depth to bedrock               | 1.00<br>1.00         | Very limited<br>Slope<br>Depth to bedrock             | 1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content               | 1.00<br>1.00<br>0.01         |

Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                                                           |                                      | Area sanitary<br>landfill                              |                  | Daily cover for<br>landfill                                                                             |                                              |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------|----------------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                 | Value                                | Rating class and<br>limiting features                  | Value            | Rating class and<br>limiting features                                                                   | Value                                        |
| 124:<br>Melling-----        | 20                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones<br>Too clayey | <br>1.00<br>1.00<br>0.63<br><br>0.50 | Very limited<br>Slope<br>Depth to bedrock              | <br>1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones<br>Too clayey<br>Gravel content | <br>1.00<br>1.00<br>0.63<br><br>0.50<br>0.02 |
| 125:<br>Dunford-----        | 45                        | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey                               | <br>1.00<br>1.00<br>0.50             | Very limited<br>Slope<br>Depth to bedrock              | <br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey<br>Gravel content                               | <br>1.00<br>1.00<br>0.50<br>0.01             |
| Ayoub-----                  | 20                        | Very limited<br>Slope<br>Depth to bedrock                                             | <br>1.00<br>1.00                     | Very limited<br>Slope<br>Depth to bedrock              | <br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content                                             | <br>1.00<br>1.00<br>0.01                     |
| Melling-----                | 20                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones<br>Too clayey | <br>1.00<br>1.00<br>0.63<br><br>0.50 | Very limited<br>Slope<br>Depth to bedrock              | <br>1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones<br>Too clayey<br>Gravel content | <br>1.00<br>1.00<br>0.63<br><br>0.50<br>0.02 |
| 126:<br>Echocreek-----      | 85                        | Not limited                                                                           |                                      | Not limited                                            |                  | Not limited                                                                                             |                                              |
| 127:<br>Echocreek-----      | 65                        | Not limited                                                                           |                                      | Not limited                                            |                  | Not limited                                                                                             |                                              |
| Kovich-----                 | 20                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Too sandy                   | <br>1.00<br>1.00<br><br>1.00         | Very limited<br>Flooding<br>Depth to<br>saturated zone | <br>1.00<br>1.00 | Very limited<br>Depth to<br>saturated zone<br>Too sandy                                                 | <br>1.00<br><br>0.50                         |
| 128:<br>Fewkes-----         | 85                        | Somewhat limited<br>Too clayey                                                        | <br>0.50                             | Not limited                                            |                  | Somewhat limited<br>Too clayey                                                                          | <br>0.50                                     |
| 129:<br>Fewkes-----         | 85                        | Somewhat limited<br>Slope<br>Too clayey                                               | <br>0.63<br>0.50                     | Somewhat limited<br>Slope                              | <br>0.63         | Somewhat limited<br>Slope<br>Too clayey                                                                 | <br>0.63<br>0.50                             |
| 130:<br>Fewkes-----         | 85                        | Very limited<br>Slope<br>Too clayey                                                   | <br>1.00<br>0.50                     | Very limited<br>Slope                                  | <br>1.00         | Very limited<br>Slope<br>Too clayey                                                                     | <br>1.00<br>0.50                             |
| 131:<br>Fewkes-----         | 60                        | Very limited<br>Slope<br>Too clayey                                                   | <br>1.00<br>0.50                     | Very limited<br>Slope                                  | <br>1.00         | Very limited<br>Slope<br>Too clayey                                                                     | <br>1.00<br>0.50                             |



Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                                                           |                              | Area sanitary<br>landfill                     |              | Daily cover for<br>landfill                                                                              |                                      |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------|--------------|----------------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                 | Value                        | Rating class and<br>limiting features         | Value        | Rating class and<br>limiting features                                                                    | Value                                |
| 131:<br>Heiners-----        | 25                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones               | 1.00<br>1.00<br>0.01         | Very limited<br>Slope<br>Depth to bedrock     | 1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Gravel content<br>Content of large<br>stones                | 1.00<br>1.00<br>0.08<br>0.01         |
| 132:<br>Fewkes-----         | 55                        | Very limited<br>Slope<br>Too clayey                                                   | 1.00<br>0.50                 | Very limited<br>Slope                         | 1.00         | Very limited<br>Slope<br>Too clayey                                                                      | 1.00<br>0.50                         |
| Hades-----                  | 30                        | Very limited<br>Slope<br>Too clayey                                                   | 1.00<br>0.50                 | Very limited<br>Slope                         | 1.00         | Very limited<br>Slope<br>Too clayey                                                                      | 1.00<br>0.50                         |
| 133:<br>Fewkes-----         | 55                        | Very limited<br>Slope<br>Too clayey                                                   | 1.00<br>0.50                 | Very limited<br>Slope                         | 1.00         | Very limited<br>Slope<br>Too clayey                                                                      | 1.00<br>0.50                         |
| Hades-----                  | 30                        | Very limited<br>Slope<br>Too clayey                                                   | 1.00<br>0.50                 | Very limited<br>Slope                         | 1.00         | Very limited<br>Slope<br>Too clayey                                                                      | 1.00<br>0.50                         |
| 134:<br>Fewkes-----         | 55                        | Somewhat limited<br>Too clayey<br>Slope                                               | 0.50<br>0.16                 | Somewhat limited<br>Slope                     | 0.16         | Somewhat limited<br>Too clayey<br>Slope                                                                  | 0.50<br>0.16                         |
| Yeates Hollow-----          | 30                        | Very limited<br>Depth to bedrock<br>Too clayey<br>Content of large<br>stones<br>Slope | 1.00<br>1.00<br>0.89<br>0.04 | Somewhat limited<br>Depth to bedrock<br>Slope | 0.93<br>0.04 | Very limited<br>Too clayey<br>Hard to compact<br>Depth to bedrock<br>Content of large<br>stones<br>Slope | 1.00<br>1.00<br>0.93<br>0.89<br>0.04 |
| 135:<br>Fewkes-----         | 55                        | Very limited<br>Slope<br>Too clayey                                                   | 1.00<br>0.50                 | Very limited<br>Slope                         | 1.00         | Very limited<br>Slope<br>Too clayey                                                                      | 1.00<br>0.50                         |
| Yeates Hollow-----          | 30                        | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>0.89 | Very limited<br>Slope<br>Depth to bedrock     | 1.00<br>0.93 | Very limited<br>Slope<br>Too clayey<br>Hard to compact<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>0.93<br>0.89 |
| 136:<br>Hades-----          | 50                        | Very limited<br>Slope<br>Too clayey                                                   | 1.00<br>0.50                 | Very limited<br>Slope                         | 1.00         | Very limited<br>Slope<br>Too clayey                                                                      | 1.00<br>0.50                         |

Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                                             |                      | Area sanitary<br>landfill                 |              | Daily cover for<br>landfill                                                               |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------|--------------|-------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features     | Value        | Rating class and<br>limiting features                                                     | Value                        |
| 136:<br>Agassiz-----        | 30                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock | 1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones                   | 1.00<br>1.00<br>1.00         |
| Rock outcrop-----           | 10                        | Not rated                                                               |                      | Not rated                                 |              | Not rated                                                                                 |                              |
| 137:<br>Hades-----          | 55                        | Very limited<br>Slope<br>Too clayey                                     | 1.00<br>0.50         | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey                                                       | 1.00<br>0.50                 |
| Fewkes-----                 | 30                        | Very limited<br>Slope<br>Too clayey                                     | 1.00<br>0.50         | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey                                                       | 1.00<br>0.50                 |
| 138:<br>Hades-----          | 55                        | Very limited<br>Slope<br>Too clayey                                     | 1.00<br>0.50         | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey                                                       | 1.00<br>0.50                 |
| Fewkes-----                 | 30                        | Very limited<br>Slope<br>Too clayey                                     | 1.00<br>0.50         | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey                                                       | 1.00<br>0.50                 |
| 139:<br>Harter-----         | 85                        | Very limited<br>Too clayey                                              | 1.00                 | Not limited                               |              | Very limited<br>Too clayey<br>Hard to compact<br>Gravel content                           | 1.00<br>1.00<br>0.23         |
| 140:<br>Heiners-----        | 60                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 | Very limited<br>Slope<br>Depth to bedrock | 1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Gravel content<br>Content of large<br>stones | 1.00<br>1.00<br>0.08<br>0.01 |
| Fewkes-----                 | 25                        | Very limited<br>Slope<br>Too clayey                                     | 1.00<br>0.50         | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey                                                       | 1.00<br>0.50                 |
| 141:<br>Heiners-----        | 35                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 | Very limited<br>Slope<br>Depth to bedrock | 1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Gravel content<br>Content of large<br>stones | 1.00<br>1.00<br>0.08<br>0.01 |
| Fewkes-----                 | 25                        | Very limited<br>Slope<br>Too clayey                                     | 1.00<br>0.50         | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey                                                       | 1.00<br>0.50                 |
| Hades-----                  | 25                        | Very limited<br>Slope<br>Too clayey                                     | 1.00<br>0.50         | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey                                                       | 1.00<br>0.50                 |

Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                                             |                      | Area sanitary<br>landfill                 |              | Daily cover for<br>landfill                                              |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------|--------------|--------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features     | Value        | Rating class and<br>limiting features                                    | Value                        |
| 142:<br>Henefer-----        | 45                        | Very limited<br>Slope                                                   | 1.00                 | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey<br>Gravel content                    | 1.00<br>1.00<br>0.09         |
| Harter-----                 | 40                        | Very limited<br>Slope<br>Too clayey                                     | 1.00<br>1.00         | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey<br>Hard to compact<br>Gravel content | 1.00<br>1.00<br>1.00<br>0.23 |
| 143:<br>Horrocks-----       | 65                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.17 | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones    | 1.00<br>0.17<br>0.17         |
| Agassiz-----                | 20                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock | 1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones  | 1.00<br>1.00<br>1.00         |
| 144:<br>Horrocks-----       | 60                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.17 | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones    | 1.00<br>0.17<br>0.17         |
| Cutoff-----                 | 25                        | Very limited<br>Slope<br>Depth to bedrock                               | 1.00<br>1.00         | Very limited<br>Slope<br>Depth to bedrock | 1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content              | 1.00<br>1.00<br>0.99         |
| 145:<br>Horrocks-----       | 60                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.17 | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones    | 1.00<br>0.17<br>0.17         |
| Cutoff-----                 | 25                        | Very limited<br>Slope<br>Depth to bedrock                               | 1.00<br>1.00         | Very limited<br>Slope<br>Depth to bedrock | 1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock<br>Gravel content              | 1.00<br>1.00<br>0.99         |
| 146:<br>Horrocks-----       | 65                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.17 | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Gravel content<br>Content of large<br>stones    | 1.00<br>0.17<br>0.17         |
| Hades-----                  | 20                        | Very limited<br>Slope<br>Too clayey                                     | 1.00<br>0.50         | Very limited<br>Slope                     | 1.00         | Very limited<br>Slope<br>Too clayey                                      | 1.00<br>0.50                 |

Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                                                                                  |                                              | Area sanitary<br>landfill                                         |                              | Daily cover for<br>landfill                                                                      |                                      |
|-----------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------|------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                                        | Value                                        | Rating class and<br>limiting features                             | Value                        | Rating class and<br>limiting features                                                            | Value                                |
| 147:<br>Hovarka-----        | 45                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Seepage<br>Too sandy                               | <br>1.00<br>1.00<br><br>1.00<br>1.00         | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Seepage | <br>1.00<br>1.00<br><br>1.00 | Very limited<br>Too sandy<br>Seepage<br>Depth to<br>saturated zone                               | <br>1.00<br>1.00<br><br>1.00         |
| Millcreek-----              | 40                        | Very limited<br>Depth to<br>saturated zone<br>Seepage<br>Too sandy<br>Flooding                               | <br>1.00<br><br>1.00<br>1.00<br>0.40         | Very limited<br>Depth to<br>saturated zone<br>Seepage<br>Flooding | <br>1.00<br><br>1.00<br>0.40 | Very limited<br>Too sandy<br>Seepage                                                             | <br>1.00<br>1.00                     |
| 148:<br>Jana-----           | 50                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones                                      | <br>1.00<br>1.00<br>0.02                     | Very limited<br>Slope<br>Depth to bedrock                         | <br>1.00<br>1.00             | Very limited<br>Depth to bedrock<br>Slope<br>Gravel content<br>Content of large<br>stones        | <br>1.00<br>1.00<br>0.62<br>0.02     |
| Richsum-----                | 30                        | Very limited<br>Slope<br>Depth to bedrock                                                                    | <br>1.00<br>1.00                             | Very limited<br>Slope<br>Depth to bedrock                         | <br>1.00<br>0.26             | Very limited<br>Slope<br>Depth to bedrock                                                        | <br>1.00<br>0.26                     |
| Rock outcrop-----           | 10                        | Not rated                                                                                                    |                                              | Not rated                                                         |                              | Not rated                                                                                        |                                      |
| 149:<br>Kovich-----         | 45                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Too sandy                                          | <br>1.00<br>1.00<br><br>1.00                 | Very limited<br>Flooding<br>Depth to<br>saturated zone            | <br>1.00<br>1.00             | Very limited<br>Depth to<br>saturated zone<br>Too sandy                                          | <br>1.00<br>0.50                     |
| Toddspan-----               | 40                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Seepage<br>Too sandy<br>Content of large<br>stones | <br>1.00<br>1.00<br><br>1.00<br>1.00<br>0.03 | Very limited<br>Flooding<br>Depth to<br>saturated zone            | <br>1.00<br>1.00             | Very limited<br>Seepage<br>Depth to<br>saturated zone<br>Too sandy<br>Content of large<br>stones | <br>1.00<br>1.00<br><br>0.50<br>0.03 |
| 150:<br>Lucky Star-----     | 85                        | Very limited<br>Slope<br>Content of large<br>stones                                                          | <br>1.00<br>0.14                             | Very limited<br>Slope<br>Seepage                                  | <br>1.00<br>1.00             | Very limited<br>Slope<br>Seepage<br>Content of large<br>stones<br>Gravel content                 | <br>1.00<br>0.52<br>0.14<br>0.06     |
| 151:<br>Lucky Star-----     | 85                        | Very limited<br>Slope<br>Content of large<br>stones                                                          | <br>1.00<br>0.14                             | Very limited<br>Slope<br>Seepage                                  | <br>1.00<br>1.00             | Very limited<br>Slope<br>Seepage<br>Content of large<br>stones<br>Gravel content                 | <br>1.00<br>0.52<br>0.14<br>0.06     |

Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                         |                  | Area sanitary<br>landfill             |                  | Daily cover for<br>landfill                                                      |                                  |
|-----------------------------|---------------------------|-----------------------------------------------------|------------------|---------------------------------------|------------------|----------------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features               | Value            | Rating class and<br>limiting features | Value            | Rating class and<br>limiting features                                            | Value                            |
| 152:<br>Lucky Star-----     | 55                        | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br><br>0.14 | Very limited<br>Slope<br>Seepage      | 1.00<br><br>1.00 | Very limited<br>Slope<br>Seepage<br>Content of large<br>stones<br>Gravel content | 1.00<br><br>0.52<br>0.14<br>0.06 |
| Dromedary-----              | 30                        | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br><br>0.45 | Very limited<br>Slope<br>Seepage      | 1.00<br><br>1.00 | Very limited<br>Slope<br>Content of large<br>stones                              | 1.00<br><br>0.45                 |
| 153:<br>Lucky Star-----     | 55                        | Very limited<br>Slope<br>Content of large<br>stones | 1.00<br><br>0.14 | Very limited<br>Slope<br>Seepage      | 1.00<br><br>1.00 | Very limited<br>Slope<br>Seepage<br>Content of large<br>stones<br>Gravel content | 1.00<br><br>0.52<br>0.14<br>0.06 |
| Fewkes-----                 | 30                        | Very limited<br>Slope<br>Too clayey                 | 1.00<br><br>0.50 | Very limited<br>Slope                 | 1.00             | Very limited<br>Slope<br>Too clayey                                              | 1.00<br><br>0.50                 |
| 154:<br>Manila-----         | 50                        | Very limited<br>Too clayey<br>Slope                 | 1.00<br><br>0.63 | Somewhat limited<br>Slope             | 0.63             | Very limited<br>Too clayey<br>Hard to compact<br>Slope                           | 1.00<br><br>1.00<br>0.63         |
| Ant Flat-----               | 35                        | Somewhat limited<br>Too clayey                      | 0.50             | Not limited                           |                  | Somewhat limited<br>Too clayey                                                   | 0.50                             |
| 155:<br>Manila-----         | 50                        | Very limited<br>Too clayey<br>Slope                 | 1.00<br><br>0.63 | Somewhat limited<br>Slope             | 0.63             | Very limited<br>Too clayey<br>Hard to compact<br>Slope                           | 1.00<br><br>1.00<br>0.63         |
| Ant Flat-----               | 35                        | Somewhat limited<br>Slope<br>Too clayey             | 0.63<br><br>0.50 | Somewhat limited<br>Slope             | 0.63             | Somewhat limited<br>Slope<br>Too clayey                                          | 0.63<br><br>0.50                 |
| 156:<br>Manila-----         | 50                        | Very limited<br>Too clayey                          | 1.00             | Not limited                           |                  | Very limited<br>Too clayey<br>Hard to compact                                    | 1.00<br><br>1.00                 |
| Harter-----                 | 40                        | Very limited<br>Too clayey                          | 1.00             | Not limited                           |                  | Very limited<br>Too clayey<br>Hard to compact<br>Gravel content                  | 1.00<br><br>1.00<br>0.23         |
| 157:<br>Manila-----         | 60                        | Very limited<br>Too clayey<br>Slope                 | 1.00<br><br>0.63 | Somewhat limited<br>Slope             | 0.63             | Very limited<br>Too clayey<br>Hard to compact<br>Slope                           | 1.00<br><br>1.00<br>0.63         |

Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                                                           |                              | Area sanitary<br>landfill                     |              | Daily cover for<br>landfill                                                                             |                                      |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------|--------------|---------------------------------------------------------------------------------------------------------|--------------------------------------|
|                             |                           | Rating class and<br>limiting features                                                 | Value                        | Rating class and<br>limiting features         | Value        | Rating class and<br>limiting features                                                                   | Value                                |
| 157:<br>Henefer-----        | 25                        | Somewhat limited<br>Slope                                                             | 0.63                         | Somewhat limited<br>Slope                     | 0.63         | Very limited<br>Too clayey<br>Slope<br>Gravel content                                                   | 1.00<br>0.63<br>0.09                 |
| 158:<br>Melling-----        | 50                        | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones<br>Too clayey | 1.00<br>1.00<br>0.63<br>0.50 | Very limited<br>Depth to bedrock<br>Slope     | 1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones<br>Too clayey<br>Gravel content | 1.00<br>1.00<br>0.63<br>0.50<br>0.02 |
| Ayoub-----                  | 30                        | Very limited<br>Depth to bedrock<br>Slope                                             | 1.00<br>1.00                 | Very limited<br>Depth to bedrock<br>Slope     | 1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Gravel content                                             | 1.00<br>1.00<br>0.01                 |
| Rock outcrop-----           | 10                        | Not rated                                                                             |                              | Not rated                                     |              | Not rated                                                                                               |                                      |
| 159:<br>Parkcity-----       | 70                        | Very limited<br>Slope<br>Content of large<br>stones                                   | 1.00<br>0.02                 | Very limited<br>Slope                         | 1.00         | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content                                   | 1.00<br>0.02<br>0.01                 |
| Dromedary-----              | 20                        | Very limited<br>Slope<br>Content of large<br>stones                                   | 1.00<br>0.45                 | Very limited<br>Slope<br>Seepage              | 1.00<br>1.00 | Very limited<br>Slope<br>Content of large<br>stones                                                     | 1.00<br>0.45                         |
| 160:<br>Parkcity-----       | 70                        | Very limited<br>Slope<br>Content of large<br>stones                                   | 1.00<br>0.02                 | Very limited<br>Slope                         | 1.00         | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content                                   | 1.00<br>0.02<br>0.01                 |
| Dromedary-----              | 20                        | Very limited<br>Slope<br>Content of large<br>stones                                   | 1.00<br>0.45                 | Very limited<br>Slope<br>Seepage              | 1.00<br>1.00 | Very limited<br>Slope<br>Content of large<br>stones                                                     | 1.00<br>0.45                         |
| 161:<br>Pits, Gravel-----   | 100                       | Not rated                                                                             |                              | Not rated                                     |              | Not rated                                                                                               |                                      |
| 162:<br>Richsum-----        | 70                        | Very limited<br>Depth to bedrock<br>Slope                                             | 1.00<br>0.16                 | Somewhat limited<br>Depth to bedrock<br>Slope | 0.26<br>0.16 | Somewhat limited<br>Depth to bedrock<br>Slope                                                           | 0.26<br>0.16                         |
| Heiners-----                | 20                        | Very limited<br>Depth to bedrock<br>Slope<br>Content of large<br>stones               | 1.00<br>0.16<br>0.01         | Very limited<br>Depth to bedrock<br>Slope     | 1.00<br>0.16 | Very limited<br>Depth to bedrock<br>Slope<br>Gravel content<br>Content of large<br>stones               | 1.00<br>0.16<br>0.08<br>0.01         |

Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                                             |                      | Area sanitary<br>landfill                             |              | Daily cover for<br>landfill                                                               |                              |
|-----------------------------|---------------------------|-------------------------------------------------------------------------|----------------------|-------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                   | Value                | Rating class and<br>limiting features                 | Value        | Rating class and<br>limiting features                                                     | Value                        |
| 163:<br>Richsum-----        | 60                        | Very limited<br>Slope<br>Depth to bedrock                               | 1.00<br>1.00         | Very limited<br>Slope<br>Depth to bedrock             | 1.00<br>0.26 | Very limited<br>Slope<br>Depth to bedrock                                                 | 1.00<br>0.26                 |
| Heiners-----                | 30                        | Very limited<br>Slope<br>Depth to bedrock<br>Content of large<br>stones | 1.00<br>1.00<br>0.01 | Very limited<br>Slope<br>Depth to bedrock             | 1.00<br>1.00 | Very limited<br>Depth to bedrock<br>Slope<br>Gravel content<br>Content of large<br>stones | 1.00<br>1.00<br>0.08<br>0.01 |
| 164:<br>Rock outcrop-----   | 90                        | Not rated                                                               |                      | Not rated                                             |              | Not rated                                                                                 |                              |
| 165:<br>Rock outcrop-----   | 50                        | Not rated                                                               |                      | Not rated                                             |              | Not rated                                                                                 |                              |
| Starley Family-----         | 30                        | Very limited<br>Slope<br>Content of large<br>stones                     | 1.00<br>0.17         | Very limited<br>Slope                                 | 1.00         | Very limited<br>Slope<br>Content of large<br>stones                                       | 1.00<br>0.17                 |
| 166:<br>Sessions-----       | 60                        | Very limited<br>Too clayey                                              | 1.00                 | Not limited                                           |              | Very limited<br>Too clayey<br>Hard to compact                                             | 1.00<br>1.00                 |
| Haydenfork-----             | 25                        | Very limited<br>Depth to<br>saturated zone<br>Ponding                   | 1.00<br>1.00         | Very limited<br>Ponding<br>Depth to<br>saturated zone | 1.00<br>1.00 | Very limited<br>Ponding<br>Depth to<br>saturated zone                                     | 1.00<br>1.00                 |
| 167:<br>Sessions-----       | 55                        | Very limited<br>Too clayey                                              | 1.00                 | Not limited                                           |              | Very limited<br>Too clayey<br>Hard to compact                                             | 1.00<br>1.00                 |
| Skutum-----                 | 30                        | Very limited<br>Depth to bedrock<br>Too clayey                          | 1.00<br>1.00         | Somewhat limited<br>Depth to bedrock                  | 0.05         | Very limited<br>Too clayey<br>Hard to compact<br>Depth to bedrock<br>Gravel content       | 1.00<br>1.00<br>0.05<br>0.01 |
| 168:<br>Sessions-----       | 60                        | Very limited<br>Too clayey<br>Slope                                     | 1.00<br>0.16         | Somewhat limited<br>Slope                             | 0.16         | Very limited<br>Too clayey<br>Hard to compact<br>Slope                                    | 1.00<br>1.00<br>0.16         |
| Uinta-----                  | 25                        | Very limited<br>Slope<br>Too clayey                                     | 1.00<br>0.50         | Very limited<br>Seepage<br>Slope                      | 1.00<br>1.00 | Very limited<br>Slope<br>Too clayey<br>Gravel content                                     | 1.00<br>0.50<br>0.06         |



Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                                        |                          | Area sanitary<br>landfill                     |                  | Daily cover for<br>landfill                                                                  |                                          |
|-----------------------------|---------------------------|--------------------------------------------------------------------|--------------------------|-----------------------------------------------|------------------|----------------------------------------------------------------------------------------------|------------------------------------------|
|                             |                           | Rating class and<br>limiting features                              | Value                    | Rating class and<br>limiting features         | Value            | Rating class and<br>limiting features                                                        | Value                                    |
| 169:<br>Skutum-----         | 85                        | Very limited<br>Depth to bedrock<br>Too clayey<br>Slope            | <br>1.00<br>1.00<br>0.16 | Somewhat limited<br>Slope<br>Depth to bedrock | <br>0.16<br>0.05 | Very limited<br>Too clayey<br>Hard to compact<br>Slope<br>Depth to bedrock<br>Gravel content | <br>1.00<br>1.00<br>0.16<br>0.05<br>0.01 |
| 170:<br>Skutum-----         | 85                        | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey            | <br>1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock     | <br>1.00<br>0.05 | Very limited<br>Slope<br>Too clayey<br>Hard to compact<br>Depth to bedrock<br>Gravel content | <br>1.00<br>1.00<br>1.00<br>0.05<br>0.01 |
| 171:<br>Skutum-----         | 85                        | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey            | <br>1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock     | <br>1.00<br>0.05 | Very limited<br>Slope<br>Too clayey<br>Hard to compact<br>Depth to bedrock<br>Gravel content | <br>1.00<br>1.00<br>1.00<br>0.05<br>0.01 |
| 172:<br>Skutum-----         | 60                        | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey            | <br>1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock     | <br>1.00<br>0.05 | Very limited<br>Slope<br>Too clayey<br>Hard to compact<br>Depth to bedrock<br>Gravel content | <br>1.00<br>1.00<br>1.00<br>0.05<br>0.01 |
| Uinta-----                  | 25                        | Very limited<br>Slope<br>Too clayey                                | <br>1.00<br>0.50         | Very limited<br>Slope<br>Seepage              | <br>1.00<br>1.00 | Very limited<br>Slope<br>Too clayey<br>Gravel content                                        | <br>1.00<br>0.50<br>0.06                 |
| 173:<br>Skutum-----         | 60                        | Very limited<br>Slope<br>Depth to bedrock<br>Too clayey            | <br>1.00<br>1.00<br>1.00 | Very limited<br>Slope<br>Depth to bedrock     | <br>1.00<br>0.05 | Very limited<br>Slope<br>Too clayey<br>Hard to compact<br>Depth to bedrock<br>Gravel content | <br>1.00<br>1.00<br>1.00<br>0.05<br>0.01 |
| Uinta-----                  | 25                        | Very limited<br>Slope<br>Too clayey                                | <br>1.00<br>0.50         | Very limited<br>Slope<br>Seepage              | <br>1.00<br>1.00 | Very limited<br>Slope<br>Too clayey<br>Gravel content                                        | <br>1.00<br>0.50<br>0.06                 |
| 174:<br>Snyderville-----    | 85                        | Very limited<br>Seepage<br>Too sandy<br>Content of large<br>stones | <br>1.00<br>1.00<br>0.47 | Very limited<br>Seepage                       | <br>1.00         | Very limited<br>Too sandy<br>Seepage<br>Content of large<br>stones<br>Gravel content         | <br>1.00<br>1.00<br>0.47<br>0.01         |

Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill                                                                                  |                                      | Area sanitary<br>landfill                                         |                      | Daily cover for<br>landfill                                                                      |                              |
|-----------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                                                        | Value                                | Rating class and<br>limiting features                             | Value                | Rating class and<br>limiting features                                                            | Value                        |
| 175:<br>Snyderville-----    | 85                        | Very limited<br>Seepage<br>Too sandy<br>Content of large<br>stones                                           | 1.00<br>1.00<br>0.47                 | Very limited<br>Seepage                                           | 1.00                 | Very limited<br>Too sandy<br>Seepage<br>Content of large<br>stones<br>Gravel content             | 1.00<br>1.00<br>0.47<br>0.01 |
| 176:<br>Snyderville-----    | 85                        | Very limited<br>Seepage<br>Too sandy<br>Content of large<br>stones                                           | 1.00<br>1.00<br>0.05                 | Very limited<br>Seepage                                           | 1.00                 | Very limited<br>Too sandy<br>Seepage<br>Gravel content<br>Content of large<br>stones             | 1.00<br>1.00<br>0.24<br>0.05 |
| 177:<br>Uinta-----          | 55                        | Very limited<br>Slope<br>Too clayey                                                                          | 1.00<br>0.50                         | Very limited<br>Seepage<br>Slope                                  | 1.00<br>1.00         | Very limited<br>Slope<br>Too clayey<br>Gravel content                                            | 1.00<br>0.50<br>0.06         |
| Duchesne-----               | 30                        | Very limited<br>Slope<br>Content of large<br>stones                                                          | 1.00<br>0.42                         | Very limited<br>Slope                                             | 1.00                 | Very limited<br>Slope<br>Content of large<br>stones<br>Gravel content                            | 1.00<br>0.42<br>0.03         |
| 178:<br>Wanship-----        | 90                        | Very limited<br>Depth to<br>saturated zone<br>Seepage<br>Too sandy<br>Flooding<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>0.40<br>0.01 | Very limited<br>Depth to<br>saturated zone<br>Seepage<br>Flooding | 1.00<br>1.00<br>0.40 | Very limited<br>Seepage<br>Depth to<br>saturated zone<br>Too sandy<br>Content of large<br>stones | 1.00<br>0.73<br>0.50<br>0.01 |
| 179:<br>Wanship-----        | 55                        | Very limited<br>Depth to<br>saturated zone<br>Seepage<br>Too sandy<br>Flooding<br>Content of large<br>stones | 1.00<br>1.00<br>1.00<br>0.40<br>0.01 | Very limited<br>Depth to<br>saturated zone<br>Seepage<br>Flooding | 1.00<br>1.00<br>0.40 | Very limited<br>Seepage<br>Depth to<br>saturated zone<br>Too sandy<br>Content of large<br>stones | 1.00<br>0.73<br>0.50<br>0.01 |
| Kovich-----                 | 30                        | Very limited<br>Flooding<br>Depth to<br>saturated zone<br>Too sandy                                          | 1.00<br>1.00<br>1.00                 | Very limited<br>Flooding<br>Depth to<br>saturated zone            | 1.00<br>1.00         | Very limited<br>Depth to<br>saturated zone<br>Too sandy                                          | 1.00<br>0.50                 |

Table 12B.--Sanitary facilities--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Trench sanitary<br>landfill           |       | Area sanitary<br>landfill             |       | Daily cover for<br>landfill           |       |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 180:                        |                           |                                       |       |                                       |       |                                       |       |
| Yeates Hollow-----          | 55                        | Very limited                          |       | Somewhat limited                      |       | Very limited                          |       |
|                             |                           | Depth to bedrock                      | 1.00  | Depth to bedrock                      | 0.93  | Too clayey                            | 1.00  |
|                             |                           | Too clayey                            | 1.00  | Slope                                 | 0.04  | Hard to compact                       | 1.00  |
|                             |                           | Content of large<br>stones            | 0.89  |                                       |       | Depth to bedrock                      | 0.93  |
|                             |                           | Slope                                 | 0.04  |                                       |       | Content of large<br>stones            | 0.89  |
|                             |                           |                                       |       |                                       |       | Slope                                 | 0.04  |
| Henefer-----                | 30                        | Somewhat limited                      |       | Somewhat limited                      |       | Very limited                          |       |
|                             |                           | Slope                                 | 0.04  | Slope                                 | 0.04  | Too clayey                            | 1.00  |
|                             |                           |                                       |       |                                       |       | Gravel content                        | 0.09  |
|                             |                           |                                       |       |                                       |       | Slope                                 | 0.04  |
| 181:                        |                           |                                       |       |                                       |       |                                       |       |
| Yeates Hollow-----          | 55                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Depth to bedrock                      | 1.00  | Depth to bedrock                      | 0.93  | Too clayey                            | 1.00  |
|                             |                           | Too clayey                            | 1.00  |                                       |       | Hard to compact                       | 1.00  |
|                             |                           | Content of large<br>stones            | 0.89  |                                       |       | Depth to bedrock                      | 0.93  |
|                             |                           |                                       |       |                                       |       | Content of large<br>stones            | 0.89  |
| Henefer-----                | 30                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           |                                       |       |                                       |       | Too clayey                            | 1.00  |
|                             |                           |                                       |       |                                       |       | Gravel content                        | 0.09  |
| 182:                        |                           |                                       |       |                                       |       |                                       |       |
| Yeates Hollow-----          | 55                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           | Depth to bedrock                      | 1.00  | Depth to bedrock                      | 0.93  | Too clayey                            | 1.00  |
|                             |                           | Too clayey                            | 1.00  |                                       |       | Hard to compact                       | 1.00  |
|                             |                           | Content of large<br>stones            | 0.89  |                                       |       | Depth to bedrock                      | 0.93  |
|                             |                           |                                       |       |                                       |       | Content of large<br>stones            | 0.89  |
| Henefer-----                | 30                        | Very limited                          |       | Very limited                          |       | Very limited                          |       |
|                             |                           | Slope                                 | 1.00  | Slope                                 | 1.00  | Slope                                 | 1.00  |
|                             |                           |                                       |       |                                       |       | Too clayey                            | 1.00  |
|                             |                           |                                       |       |                                       |       | Gravel content                        | 0.09  |
| 183:                        |                           |                                       |       |                                       |       |                                       |       |
| Water-----                  | 100                       | Not rated                             |       | Not rated                             |       | Not rated                             |       |
| 184:                        |                           |                                       |       |                                       |       |                                       |       |
| Dams-----                   | 100                       | Not rated                             |       | Not rated                             |       | Not rated                             |       |

Table 13A.--Construction materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>gravel          |                  | Potential source of<br>sand            |                  |
|-----------------------------|---------------------------|----------------------------------------|------------------|----------------------------------------|------------------|
|                             |                           | Rating class                           | Value            | Rating class                           | Value            |
| 101:<br>Agassiz-----        | 60                        | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 |
| Rock outcrop-----           | 25                        | Not rated                              |                  | Not rated                              |                  |
| 102:<br>Ant Flat-----       | 85                        | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 |
| 103:<br>Ant Flat-----       | 85                        | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 |
| 104:<br>Ant Flat-----       | 90                        | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 |
| 105:<br>Ant Flat-----       | 40                        | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 |
| Henefer-----                | 30                        | Poor<br>Thickest layer<br>Bottom layer | <br>0.00<br>0.00 | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 |
| Skutum-----                 | 20                        | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 |
| 106:<br>Ayoub-----          | 85                        | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 |
| 107:<br>Ayoub-----          | 45                        | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 |
| Dunford-----                | 20                        | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 |
| Melling-----                | 20                        | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 | Poor<br>Bottom layer<br>Thickest layer | <br>0.00<br>0.00 |

Table 13A.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>gravel |       | Potential source of<br>sand |       |
|-----------------------------|---------------------------|-------------------------------|-------|-----------------------------|-------|
|                             |                           | Rating class                  | Value | Rating class                | Value |
| 108:<br>Ayoub-----          | 45                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Dunford-----                | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Melling-----                | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 109:<br>Cluff-----          | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 110:<br>Cluff-----          | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 111:<br>Crandall-----       | 90                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 112:<br>Crandall-----       | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Lucky Star-----             | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 113:<br>Crandall-----       | 50                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Lucky Star-----             | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Starley Family-----         | 15                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 114:<br>Crandall-----       | 50                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Starley Family-----         | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Rock outcrop-----           | 10                        | Not rated                     |       | Not rated                   |       |

Table 13A.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>gravel |       | Potential source of<br>sand |       |
|-----------------------------|---------------------------|-------------------------------|-------|-----------------------------|-------|
|                             |                           | Rating class                  | Value | Rating class                | Value |
| 115:<br>Dastrup-----        | 90                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 116:<br>Dastrup-----        | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 117:<br>Dastrup-----        | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 118:<br>Dromedary-----      | 70                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Rock outcrop-----           | 15                        | Not rated                     |       | Not rated                   |       |
| 119:<br>Duchesne-----       | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| 120:<br>Duchesne-----       | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| 121:<br>Duchesne-----       | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| 122:<br>Duchesne-----       | 60                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| Haydenfork-----             | 25                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 123:<br>Dumps, Mines-----   | 100                       | Not rated                     |       | Not rated                   |       |
| 124:<br>Dunford-----        | 45                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Ayoub-----                  | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Melling-----                | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |

Table 13A.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>gravel |       | Potential source of<br>sand |       |
|-----------------------------|---------------------------|-------------------------------|-------|-----------------------------|-------|
|                             |                           | Rating class                  | Value | Rating class                | Value |
| 125:<br>Dunford-----        | 45                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Ayoub-----                  | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Melling-----                | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 126:<br>Echocreek-----      | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 127:<br>Echocreek-----      | 65                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Kovich-----                 | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| 128:<br>Fewkes-----         | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 129:<br>Fewkes-----         | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 130:<br>Fewkes-----         | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 131:<br>Fewkes-----         | 60                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Heiners-----                | 25                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 132:<br>Fewkes-----         | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Hades-----                  | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |



Table 13A.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>gravel |       | Potential source of<br>sand |       |
|-----------------------------|---------------------------|-------------------------------|-------|-----------------------------|-------|
|                             |                           | Rating class                  | Value | Rating class                | Value |
| 133:                        |                           |                               |       |                             |       |
| Fewkes-----                 | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Hades-----                  | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 134:                        |                           |                               |       |                             |       |
| Fewkes-----                 | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Yeates Hollow-----          | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 135:                        |                           |                               |       |                             |       |
| Fewkes-----                 | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Yeates Hollow-----          | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 136:                        |                           |                               |       |                             |       |
| Hades-----                  | 50                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Agassiz-----                | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Rock outcrop-----           | 10                        | Not rated                     |       | Not rated                   |       |
| 137:                        |                           |                               |       |                             |       |
| Hades-----                  | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Fewkes-----                 | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 138:                        |                           |                               |       |                             |       |
| Hades-----                  | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Fewkes-----                 | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 139:                        |                           |                               |       |                             |       |
| Harter-----                 | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |

Table 13A.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>gravel |       | Potential source of<br>sand |       |
|-----------------------------|---------------------------|-------------------------------|-------|-----------------------------|-------|
|                             |                           | Rating class                  | Value | Rating class                | Value |
| 140:                        |                           |                               |       |                             |       |
| Heiners-----                | 60                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Fewkes-----                 | 25                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 141:                        |                           |                               |       |                             |       |
| Heiners-----                | 35                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Fewkes-----                 | 25                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Hades-----                  | 25                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 142:                        |                           |                               |       |                             |       |
| Henefer-----                | 45                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| Harter-----                 | 40                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 143:                        |                           |                               |       |                             |       |
| Horrocks-----               | 65                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Agassiz-----                | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 144:                        |                           |                               |       |                             |       |
| Horrocks-----               | 60                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Cutoff-----                 | 25                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 145:                        |                           |                               |       |                             |       |
| Horrocks-----               | 60                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Cutoff-----                 | 25                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 146:                        |                           |                               |       |                             |       |
| Horrocks-----               | 65                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |

Table 13A.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>gravel |       | Potential source of<br>sand |       |
|-----------------------------|---------------------------|-------------------------------|-------|-----------------------------|-------|
|                             |                           | Rating class                  | Value | Rating class                | Value |
| 146:<br>Hades-----          | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 147:<br>Hovarka-----        | 45                        | Poor                          |       | Fair                        |       |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.03  |
| Millcreek-----              | 40                        | Poor                          |       | Fair                        |       |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.01  |
| 148:<br>Jana-----           | 50                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Richsum-----                | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Rock outcrop-----           | 10                        | Not rated                     |       | Not rated                   |       |
| 149:<br>Kovich-----         | 45                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| Toddspan-----               | 40                        | Poor                          |       | Fair                        |       |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.03  |
| 150:<br>Lucky Star-----     | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 151:<br>Lucky Star-----     | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 152:<br>Lucky Star-----     | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Dromedary-----              | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 153:<br>Lucky Star-----     | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Fewkes-----                 | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |

Table 13A.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>gravel |       | Potential source of<br>sand |       |
|-----------------------------|---------------------------|-------------------------------|-------|-----------------------------|-------|
|                             |                           | Rating class                  | Value | Rating class                | Value |
| 154:                        |                           |                               |       |                             |       |
| Manila-----                 | 50                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Ant Flat-----               | 35                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 155:                        |                           |                               |       |                             |       |
| Manila-----                 | 50                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Ant Flat-----               | 35                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 156:                        |                           |                               |       |                             |       |
| Manila-----                 | 50                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Harter-----                 | 40                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 157:                        |                           |                               |       |                             |       |
| Manila-----                 | 60                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Henefer-----                | 25                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| 158:                        |                           |                               |       |                             |       |
| Melling-----                | 50                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Ayoub-----                  | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Rock outcrop-----           | 10                        | Not rated                     |       | Not rated                   |       |
| 159:                        |                           |                               |       |                             |       |
| Parkcity-----               | 70                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Dromedary-----              | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 160:                        |                           |                               |       |                             |       |
| Parkcity-----               | 70                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |

Table 13A.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>gravel |       | Potential source of<br>sand |       |
|-----------------------------|---------------------------|-------------------------------|-------|-----------------------------|-------|
|                             |                           | Rating class                  | Value | Rating class                | Value |
| 160:<br>Dromedary-----      | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 161:<br>Pits, Gravel-----   | 100                       | Not rated                     |       | Not rated                   |       |
| 162:<br>Richsum-----        | 70                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Heiners-----                | 20                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 163:<br>Richsum-----        | 60                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Heiners-----                | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 164:<br>Rock outcrop-----   | 90                        | Not rated                     |       | Not rated                   |       |
| 165:<br>Rock outcrop-----   | 50                        | Not rated                     |       | Not rated                   |       |
| Starley Family-----         | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 166:<br>Sessions-----       | 60                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Haydenfork-----             | 25                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 167:<br>Sessions-----       | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Skutum-----                 | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 168:<br>Sessions-----       | 60                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |

Table 13A.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>gravel |       | Potential source of<br>sand |       |
|-----------------------------|---------------------------|-------------------------------|-------|-----------------------------|-------|
|                             |                           | Rating class                  | Value | Rating class                | Value |
| 168:<br>Uinta-----          | 25                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 169:<br>Skutum-----         | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 170:<br>Skutum-----         | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 171:<br>Skutum-----         | 85                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 172:<br>Skutum-----         | 60                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Uinta-----                  | 25                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 173:<br>Skutum-----         | 60                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Uinta-----                  | 25                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| 174:<br>Snyderville-----    | 85                        | Fair                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.06  | Thickest layer              | 0.00  |
| 175:<br>Snyderville-----    | 85                        | Fair                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.06  | Thickest layer              | 0.00  |
| 176:<br>Snyderville-----    | 85                        | Fair                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.19  | Thickest layer              | 0.00  |
| 177:<br>Uinta-----          | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Duchesne-----               | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |

Table 13A.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>gravel |       | Potential source of<br>sand |       |
|-----------------------------|---------------------------|-------------------------------|-------|-----------------------------|-------|
|                             |                           | Rating class                  | Value | Rating class                | Value |
| 178:<br>Wanship-----        | 90                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| 179:<br>Wanship-----        | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| Kovich-----                 | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| 180:<br>Yeates Hollow-----  | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Henefer-----                | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| 181:<br>Yeates Hollow-----  | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Henefer-----                | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| 182:<br>Yeates Hollow-----  | 55                        | Poor                          |       | Poor                        |       |
|                             |                           | Bottom layer                  | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Thickest layer                | 0.00  | Thickest layer              | 0.00  |
| Henefer-----                | 30                        | Poor                          |       | Poor                        |       |
|                             |                           | Thickest layer                | 0.00  | Bottom layer                | 0.00  |
|                             |                           | Bottom layer                  | 0.00  | Thickest layer              | 0.00  |
| 183:<br>Water-----          | 100                       | Not rated                     |       | Not rated                   |       |
| 184:<br>Dams-----           | 100                       | Not rated                     |       | Not rated                   |       |



Table 13B.--Construction materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material |       | Potential source of<br>roadfill       |       | Potential source of<br>topsoil        |       |
|-----------------------------|---------------------------|---------------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features       | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 101:<br>Agassiz-----        | 60                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.00  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Depth to bedrock                            | 0.00  | Slope                                 | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.46  | Cobble content                        | 0.72  | Depth to bedrock                      | 0.00  |
|                             |                           | Stone content                               | 0.86  | Stone content                         | 0.86  |                                       |       |
| Rock outcrop-----           | 25                        | Not rated                                   |       | Not rated                             |       | Not rated                             |       |
| 102:<br>Ant Flat-----       | 85                        | Fair                                        |       | Poor                                  |       | Good                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.12  | Low strength                          | 0.00  |                                       |       |
|                             |                           | Carbonate content                           | 0.80  | Shrink-swell                          | 0.78  |                                       |       |
|                             |                           | Water erosion                               | 0.90  |                                       |       |                                       |       |
| 103:<br>Ant Flat-----       | 85                        | Fair                                        |       | Poor                                  |       | Fair                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.12  | Low strength                          | 0.00  | Slope                                 | 0.37  |
|                             |                           | Carbonate content                           | 0.80  | Shrink-swell                          | 0.78  |                                       |       |
|                             |                           | Water erosion                               | 0.90  |                                       |       |                                       |       |
| 104:<br>Ant Flat-----       | 90                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.12  | Low strength                          | 0.00  | Slope                                 | 0.00  |
|                             |                           | Carbonate content                           | 0.80  | Slope                                 | 0.08  |                                       |       |
|                             |                           | Water erosion                               | 0.90  | Shrink-swell                          | 0.78  |                                       |       |
| 105:<br>Ant Flat-----       | 40                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.12  | Low strength                          | 0.00  | Slope                                 | 0.00  |
|                             |                           | Carbonate content                           | 0.80  | Slope                                 | 0.50  |                                       |       |
|                             |                           | Water erosion                               | 0.90  | Shrink-swell                          | 0.78  |                                       |       |
| Henefer-----                | 30                        | Poor                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Slope                                 | 0.50  | Too clayey                            | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  |                                       |       | Slope                                 | 0.00  |
|                             |                           |                                             |       |                                       |       | Rock fragments                        | 0.03  |
|                             |                           |                                             |       |                                       |       | Hard to reclaim                       | 0.08  |
| Skutum-----                 | 20                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.50  | Too clayey                            | 0.00  |
|                             |                           |                                             |       | Depth to bedrock                      | 0.95  | Slope                                 | 0.00  |
|                             |                           |                                             |       | Shrink-swell                          | 0.98  | Hard to reclaim                       | 0.68  |
| 106:<br>Ayoub-----          | 85                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.52  | Depth to bedrock                      | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Stone content                         | 0.99  | Depth to bedrock                      | 0.90  |
|                             |                           | Depth to bedrock                            | 0.90  |                                       |       | Slope                                 | 0.96  |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material |       | Potential source of<br>roadfill       |       | Potential source of<br>topsoil        |       |
|-----------------------------|---------------------------|---------------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features       | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 107:<br>Ayoub-----          | 45                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.52  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Slope                                 | 0.18  | Rock fragments                        | 0.00  |
|                             |                           | Depth to bedrock                            | 0.90  | Stone content                         | 0.99  | Depth to bedrock                      | 0.90  |
| Dunford-----                | 20                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Droughty                                    | 0.88  | Slope                                 | 0.18  | Rock fragments                        | 0.00  |
|                             |                           | Depth to bedrock                            | 0.93  | Shrink-swell                          | 0.87  | Too clayey                            | 0.64  |
|                             |                           | Too clayey                                  | 0.98  |                                       |       | Depth to bedrock                      | 0.93  |
| Melling-----                | 20                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.00  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Depth to bedrock                            | 0.00  | Slope                                 | 0.18  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.73  | Cobble content                        | 0.72  | Depth to bedrock                      | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Shrink-swell                          | 0.87  | Too clayey                            | 0.93  |
| 108:<br>Ayoub-----          | 45                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.52  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Depth to bedrock                      | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Depth to bedrock                            | 0.90  | Stone content                         | 0.99  | Depth to bedrock                      | 0.90  |
| Dunford-----                | 20                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Droughty                                    | 0.88  | Depth to bedrock                      | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Depth to bedrock                            | 0.93  | Shrink-swell                          | 0.87  | Too clayey                            | 0.64  |
|                             |                           | Too clayey                                  | 0.98  |                                       |       | Depth to bedrock                      | 0.93  |
| Melling-----                | 20                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.00  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Depth to bedrock                            | 0.00  | Slope                                 | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.73  | Cobble content                        | 0.72  | Depth to bedrock                      | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Shrink-swell                          | 0.87  | Too clayey                            | 0.93  |
| 109:<br>Cluff-----          | 85                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.12  | Low strength                          | 0.00  | Hard to reclaim                       | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.68  | Rock fragments                        | 0.00  |
|                             |                           | Too acid                                    | 0.95  | Cobble content                        | 0.71  | Slope                                 | 0.00  |
|                             |                           | Stone content                               | 0.99  | Depth to bedrock                      | 0.87  | Too clayey                            | 0.09  |
|                             |                           | No cobble<br>limitation                     | 0.99  | Shrink-swell                          | 0.94  |                                       |       |
|                             |                           |                                             |       | Stone content                         | 0.99  |                                       |       |
| 110:<br>Cluff-----          | 85                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.12  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  | Low strength                          | 0.00  | Hard to reclaim                       | 0.00  |
|                             |                           | Too acid                                    | 0.95  | Cobble content                        | 0.71  | Rock fragments                        | 0.00  |
|                             |                           | Stone content                               | 0.99  | Depth to bedrock                      | 0.87  | Too clayey                            | 0.09  |
|                             |                           | No cobble<br>limitation                     | 0.99  | Shrink-swell                          | 0.94  |                                       |       |
|                             |                           |                                             |       | Stone content                         | 0.99  |                                       |       |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material |       | Potential source of<br>roadfill       |       | Potential source of<br>topsoil        |       |
|-----------------------------|---------------------------|---------------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features       | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 111:<br>Crandall-----       | 90                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.88  | Depth to bedrock                      | 0.92  | Rock fragments                        | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Cobble content                        | 0.96  | Hard to reclaim                       | 0.00  |
|                             |                           | Stone content                               | 0.99  | Stone content                         | 0.99  | Too clayey                            | 0.70  |
| 112:<br>Crandall-----       | 55                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.88  | Slope                                 | 0.50  | Rock fragments                        | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Depth to bedrock                      | 0.92  | Hard to reclaim                       | 0.00  |
|                             |                           | Stone content                               | 0.99  | Cobble content                        | 0.96  | Slope                                 | 0.00  |
|                             |                           |                                             |       | Stone content                         | 0.99  | Too clayey                            | 0.70  |
| Lucky Star-----             | 30                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Cobble content                        | 0.81  | Rock fragments                        | 0.00  |
|                             |                           | Stone content                               | 0.89  | Slope                                 | 0.92  | Hard to reclaim                       | 0.00  |
|                             |                           |                                             |       | Stone content                         | 0.94  | Slope                                 | 0.00  |
| 113:<br>Crandall-----       | 50                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.88  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Depth to bedrock                      | 0.92  | Rock fragments                        | 0.00  |
|                             |                           | Stone content                               | 0.99  | Cobble content                        | 0.96  | Hard to reclaim                       | 0.00  |
|                             |                           |                                             |       | Stone content                         | 0.99  | Too clayey                            | 0.70  |
| Lucky Star-----             | 20                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Stone content                               | 0.89  | Cobble content                        | 0.81  | Rock fragments                        | 0.00  |
|                             |                           |                                             |       | Stone content                         | 0.94  | Hard to reclaim                       | 0.00  |
| Starley Family-----         | 15                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.00  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.00  | Cobble content                        | 0.39  |                                       |       |
|                             |                           | Stone content                               | 0.97  | Stone content                         | 0.97  |                                       |       |
|                             |                           | No cobble<br>limitation                     | 0.99  |                                       |       |                                       |       |
| 114:<br>Crandall-----       | 50                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.88  | Slope                                 | 0.92  | Rock fragments                        | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Depth to bedrock                      | 0.92  | Hard to reclaim                       | 0.00  |
|                             |                           | Stone content                               | 0.99  | Cobble content                        | 0.96  | Slope                                 | 0.00  |
|                             |                           |                                             |       | Stone content                         | 0.99  | Too clayey                            | 0.70  |
| Starley Family-----         | 30                        | Poor                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.00  | Cobble content                        | 0.39  | Slope                                 | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.00  | Slope                                 | 0.92  |                                       |       |
|                             |                           | Stone content                               | 0.97  | Stone content                         | 0.97  |                                       |       |
|                             |                           | No cobble<br>limitation                     | 0.99  |                                       |       |                                       |       |
| Rock outcrop-----           | 10                        | Not rated                                   |       | Not rated                             |       | Not rated                             |       |
| 115:<br>Dastrup-----        | 90                        | Fair                                        |       | Fair                                  |       | Fair                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.12  | Low strength                          | 0.78  | Rock fragments                        | 0.28  |
|                             |                           | Carbonate content                           | 0.46  |                                       |       | Carbonate content                     | 0.46  |
|                             |                           |                                             |       |                                       |       | Hard to reclaim                       | 0.95  |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material                                          |                                  | Potential source of<br>roadfill                    |                      | Potential source of<br>topsoil                                          |                                  |
|-----------------------------|---------------------------|--------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------|----------------------|-------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                                                | Value                            | Rating class and<br>limiting features              | Value                | Rating class and<br>limiting features                                   | Value                            |
| 116:<br>Dastrup-----        | 85                        | Fair<br>Low content of<br>organic matter<br>Carbonate content                        | 0.12<br><br>0.46                 | Fair<br>Low strength                               | 0.78                 | Fair<br>Rock fragments<br>Carbonate content<br>Slope<br>Hard to reclaim | 0.28<br>0.46<br>0.84<br>0.95     |
| 117:<br>Dastrup-----        | 85                        | Fair<br>Low content of<br>organic matter<br>Carbonate content                        | 0.12<br><br>0.46                 | Fair<br>Slope<br>Low strength                      | 0.18<br>0.78         | Poor<br>Slope<br>Rock fragments<br>Carbonate content<br>Hard to reclaim | 0.00<br><br>0.28<br>0.46<br>0.95 |
| 118:<br>Dromedary-----      | 70                        | Fair<br>Low content of<br>organic matter<br>Cobble content<br>Too clayey<br>Droughty | 0.50<br><br>0.84<br>0.98<br>0.99 | Poor<br>Slope<br>Cobble content<br>Shrink-swell    | 0.00<br>0.10<br>0.97 | Poor<br>Slope<br>Hard to reclaim<br>Rock fragments<br>Too clayey        | 0.00<br>0.00<br>0.00<br>0.64     |
| Rock outcrop-----           | 15                        | Not rated                                                                            |                                  | Not rated                                          |                      | Not rated                                                               |                                  |
| 119:<br>Duchesne-----       | 85                        | Fair<br>Low content of<br>organic matter<br>Too acid<br>Cobble content<br>Droughty   | 0.50<br><br>0.84<br>0.87<br>0.95 | Fair<br>Cobble content                             | 0.15                 | Poor<br>Hard to reclaim<br>Rock fragments<br>Slope                      | 0.00<br>0.00<br>0.84             |
| 120:<br>Duchesne-----       | 85                        | Fair<br>Low content of<br>organic matter<br>Too acid<br>Cobble content<br>Droughty   | 0.50<br><br>0.84<br>0.87<br>0.95 | Fair<br>Cobble content<br>Slope                    | 0.15<br>0.18         | Poor<br>Slope<br>Hard to reclaim<br>Rock fragments                      | 0.00<br>0.00<br>0.00             |
| 121:<br>Duchesne-----       | 85                        | Fair<br>Low content of<br>organic matter<br>Too acid<br>Cobble content<br>Droughty   | 0.50<br><br>0.84<br>0.87<br>0.95 | Poor<br>Slope<br>Cobble content                    | 0.00<br>0.15         | Poor<br>Slope<br>Hard to reclaim<br>Rock fragments                      | 0.00<br>0.00<br>0.00             |
| 122:<br>Duchesne-----       | 60                        | Fair<br>Low content of<br>organic matter<br>Too acid<br>Cobble content<br>Droughty   | 0.50<br><br>0.84<br>0.87<br>0.95 | Fair<br>Cobble content<br>Slope                    | 0.15<br>0.18         | Poor<br>Hard to reclaim<br>Rock fragments<br>Slope                      | 0.00<br>0.00<br>0.00             |
| Haydenfork-----             | 25                        | Fair<br>Low content of<br>organic matter<br>Too acid                                 | 0.50<br><br>0.95                 | Fair<br>Depth to<br>saturated zone<br>Shrink-swell | 0.03<br>0.91         | Fair<br>Depth to<br>saturated zone                                      | 0.03                             |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material |       | Potential source of<br>roadfill       |       | Potential source of<br>topsoil        |       |
|-----------------------------|---------------------------|---------------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features       | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 123:<br>Dumps, Mines-----   | 100                       | Not rated                                   |       | Not rated                             |       | Not rated                             |       |
| 124:<br>Dunford-----        | 45                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Droughty                                    | 0.88  | Slope                                 | 0.18  | Rock fragments                        | 0.00  |
|                             |                           | Depth to bedrock                            | 0.93  | Shrink-swell                          | 0.87  | Too clayey                            | 0.64  |
|                             |                           | Too clayey                                  | 0.98  |                                       |       | Depth to bedrock                      | 0.93  |
| Ayoub-----                  | 20                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.52  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Slope                                 | 0.18  | Rock fragments                        | 0.00  |
|                             |                           | Depth to bedrock                            | 0.90  | Stone content                         | 0.99  | Depth to bedrock                      | 0.90  |
| Melling-----                | 20                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.00  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Depth to bedrock                            | 0.00  | Slope                                 | 0.18  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.73  | Cobble content                        | 0.72  | Depth to bedrock                      | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Shrink-swell                          | 0.87  | Too clayey                            | 0.93  |
| 125:<br>Dunford-----        | 45                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Droughty                                    | 0.88  | Depth to bedrock                      | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Depth to bedrock                            | 0.93  | Shrink-swell                          | 0.87  | Too clayey                            | 0.64  |
|                             |                           | Too clayey                                  | 0.98  |                                       |       | Depth to bedrock                      | 0.93  |
| Ayoub-----                  | 20                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.52  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Depth to bedrock                      | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Depth to bedrock                            | 0.90  | Stone content                         | 0.99  | Depth to bedrock                      | 0.90  |
| Melling-----                | 20                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.00  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Depth to bedrock                            | 0.00  | Slope                                 | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.73  | Cobble content                        | 0.72  | Depth to bedrock                      | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Shrink-swell                          | 0.87  | Too clayey                            | 0.93  |
| 126:<br>Echocreek-----      | 85                        | Fair                                        |       | Good                                  |       | Good                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  |                                       |       |                                       |       |
|                             |                           | Water erosion                               | 0.90  |                                       |       |                                       |       |
| 127:<br>Echocreek-----      | 65                        | Fair                                        |       | Good                                  |       | Good                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  |                                       |       |                                       |       |
|                             |                           | Water erosion                               | 0.90  |                                       |       |                                       |       |
| Kovich-----                 | 20                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Depth to<br>saturated zone            | 0.14  | Hard to reclaim                       | 0.00  |
|                             |                           |                                             |       |                                       |       | Depth to<br>saturated zone            | 0.14  |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material                                                                   |                                      | Potential source of<br>roadfill               |                      | Potential source of<br>topsoil                                           |                              |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------|----------------------|--------------------------------------------------------------------------|------------------------------|
|                             |                           | Rating class and<br>limiting features                                                                         | Value                                | Rating class and<br>limiting features         | Value                | Rating class and<br>limiting features                                    | Value                        |
| 128:<br>Fewkes-----         | 85                        | Fair<br>Low content of<br>organic matter<br>Carbonate content                                                 | 0.50<br>0.68                         | Fair<br>Low strength<br>Shrink-swell          | 0.22<br>0.89         | Poor<br>Rock fragments<br>Hard to reclaim                                | 0.00<br>0.95                 |
| 129:<br>Fewkes-----         | 85                        | Fair<br>Low content of<br>organic matter<br>Carbonate content                                                 | 0.50<br>0.68                         | Fair<br>Low strength<br>Shrink-swell          | 0.22<br>0.89         | Poor<br>Rock fragments<br>Slope<br>Hard to reclaim                       | 0.00<br>0.37<br>0.95         |
| 130:<br>Fewkes-----         | 85                        | Fair<br>Low content of<br>organic matter<br>Carbonate content                                                 | 0.50<br>0.68                         | Fair<br>Slope<br>Low strength<br>Shrink-swell | 0.18<br>0.22<br>0.89 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim                       | 0.00<br>0.00<br>0.95         |
| 131:<br>Fewkes-----         | 60                        | Fair<br>Low content of<br>organic matter<br>Carbonate content                                                 | 0.50<br>0.68                         | Poor<br>Slope<br>Low strength<br>Shrink-swell | 0.00<br>0.22<br>0.89 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim                       | 0.00<br>0.00<br>0.95         |
| Heiners-----                | 25                        | Poor<br>Droughty<br>Depth to bedrock<br>Too alkaline<br>Low content of<br>organic matter<br>Carbonate content | 0.00<br>0.00<br>0.00<br>0.50<br>0.80 | Poor<br>Depth to bedrock<br>Slope             | 0.00<br>0.00         | Poor<br>Slope<br>Depth to bedrock<br>Rock fragments<br>Carbonate content | 0.00<br>0.00<br>0.00<br>0.80 |
| 132:<br>Fewkes-----         | 55                        | Fair<br>Low content of<br>organic matter<br>Carbonate content                                                 | 0.50<br>0.68                         | Fair<br>Slope<br>Low strength<br>Shrink-swell | 0.18<br>0.22<br>0.89 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim                       | 0.00<br>0.00<br>0.95         |
| Hades-----                  | 30                        | Fair<br>Low content of<br>organic matter<br>Too clayey                                                        | 0.50<br>0.98                         | Fair<br>Slope<br>Low strength<br>Shrink-swell | 0.18<br>0.22<br>0.94 | Poor<br>Slope<br>Too clayey                                              | 0.00<br>0.98                 |
| 133:<br>Fewkes-----         | 55                        | Fair<br>Low content of<br>organic matter<br>Carbonate content                                                 | 0.50<br>0.68                         | Poor<br>Slope<br>Low strength<br>Shrink-swell | 0.00<br>0.22<br>0.89 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim                       | 0.00<br>0.00<br>0.95         |
| Hades-----                  | 30                        | Fair<br>Low content of<br>organic matter<br>Too clayey                                                        | 0.50<br>0.98                         | Poor<br>Slope<br>Low strength<br>Shrink-swell | 0.00<br>0.22<br>0.94 | Poor<br>Slope<br>Too clayey                                              | 0.00<br>0.98                 |
| 134:<br>Fewkes-----         | 55                        | Fair<br>Low content of<br>organic matter<br>Carbonate content                                                 | 0.50<br>0.68                         | Fair<br>Low strength<br>Shrink-swell          | 0.22<br>0.89         | Poor<br>Rock fragments<br>Slope<br>Hard to reclaim                       | 0.00<br>0.84<br>0.95         |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material |       | Potential source of<br>roadfill       |       | Potential source of<br>topsoil        |       |
|-----------------------------|---------------------------|---------------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features       | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 134:<br>Yeates Hollow-----  | 30                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Too clayey                            | 0.00  |
|                             |                           | Droughty                                    | 0.34  | Depth to bedrock                      | 0.07  | Hard to reclaim                       | 0.00  |
|                             |                           | Stone content                               | 0.42  | Stone content                         | 0.10  | Rock fragments                        | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Cobble content                        | 0.11  | Slope                                 | 0.96  |
|                             |                           | Cobble content                              | 0.88  | Shrink-swell                          | 0.96  |                                       |       |
| 135:<br>Fewkes-----         | 55                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Carbonate content                           | 0.68  | Low strength                          | 0.22  | Rock fragments                        | 0.00  |
|                             |                           |                                             |       | Shrink-swell                          | 0.89  | Hard to reclaim                       | 0.95  |
| Yeates Hollow-----          | 30                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Slope                                 | 0.00  |
|                             |                           | Droughty                                    | 0.34  | Depth to bedrock                      | 0.07  | Too clayey                            | 0.00  |
|                             |                           | Stone content                               | 0.42  | Slope                                 | 0.08  | Hard to reclaim                       | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Stone content                         | 0.10  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.88  | Cobble content                        | 0.11  |                                       |       |
|                             |                           |                                             |       | Shrink-swell                          | 0.96  |                                       |       |
| 136:<br>Hades-----          | 50                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Low strength                          | 0.22  | Too clayey                            | 0.98  |
|                             |                           |                                             |       | Shrink-swell                          | 0.94  |                                       |       |
| Agassiz-----                | 30                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.00  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Depth to bedrock                            | 0.00  | Slope                                 | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.46  | Cobble content                        | 0.72  | Depth to bedrock                      | 0.00  |
|                             |                           | Stone content                               | 0.86  | Stone content                         | 0.86  |                                       |       |
| Rock outcrop-----           | 10                        | Not rated                                   |       | Not rated                             |       | Not rated                             |       |
| 137:<br>Hades-----          | 55                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.08  | Slope                                 | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Low strength                          | 0.22  | Too clayey                            | 0.98  |
|                             |                           |                                             |       | Shrink-swell                          | 0.94  |                                       |       |
| Fewkes-----                 | 30                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.08  | Slope                                 | 0.00  |
|                             |                           | Carbonate content                           | 0.68  | Low strength                          | 0.22  | Rock fragments                        | 0.00  |
|                             |                           |                                             |       | Shrink-swell                          | 0.89  | Hard to reclaim                       | 0.95  |
| 138:<br>Hades-----          | 55                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Low strength                          | 0.22  | Too clayey                            | 0.98  |
|                             |                           |                                             |       | Shrink-swell                          | 0.94  |                                       |       |
| Fewkes-----                 | 30                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Carbonate content                           | 0.68  | Low strength                          | 0.22  | Rock fragments                        | 0.00  |
|                             |                           |                                             |       | Shrink-swell                          | 0.89  | Hard to reclaim                       | 0.95  |



Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material                                                                   |                                          | Potential source of<br>roadfill                   |                          | Potential source of<br>topsoil                                           |                                  |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------------|--------------------------|--------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                                                                         | Value                                    | Rating class and<br>limiting features             | Value                    | Rating class and<br>limiting features                                    | Value                            |
| 139:<br>Harter-----         | 85                        | Fair<br>Too clayey<br>Low content of<br>organic matter                                                        | <br>0.12<br>0.50                         | Poor<br>Low strength<br>Shrink-swell              | <br>0.00<br>0.95         | Poor<br>Rock fragments<br>Too clayey<br>Hard to reclaim                  | <br>0.00<br>0.08<br>0.68         |
| 140:<br>Heiners-----        | 60                        | Poor<br>Droughty<br>Depth to bedrock<br>Too alkaline<br>Low content of<br>organic matter<br>Carbonate content | <br>0.00<br>0.00<br>0.00<br>0.50<br>0.80 | Poor<br>Depth to bedrock<br>Slope                 | <br>0.00<br>0.08         | Poor<br>Slope<br>Depth to bedrock<br>Rock fragments<br>Carbonate content | <br>0.00<br>0.00<br>0.00<br>0.80 |
| Fewkes-----                 | 25                        | Fair<br>Low content of<br>organic matter<br>Carbonate content                                                 | <br>0.50<br>0.68                         | Fair<br>Slope<br>Low strength<br>Shrink-swell     | <br>0.08<br>0.22<br>0.89 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim                       | <br>0.00<br>0.00<br>0.95         |
| 141:<br>Heiners-----        | 35                        | Poor<br>Droughty<br>Depth to bedrock<br>Too alkaline<br>Low content of<br>organic matter<br>Carbonate content | <br>0.00<br>0.00<br>0.00<br>0.50<br>0.80 | Poor<br>Depth to bedrock<br>Slope                 | <br>0.00<br>0.00         | Poor<br>Slope<br>Depth to bedrock<br>Rock fragments<br>Carbonate content | <br>0.00<br>0.00<br>0.00<br>0.80 |
| Fewkes-----                 | 25                        | Fair<br>Low content of<br>organic matter<br>Carbonate content                                                 | <br>0.50<br>0.68                         | Poor<br>Slope<br>Low strength<br>Shrink-swell     | <br>0.00<br>0.22<br>0.89 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim                       | <br>0.00<br>0.00<br>0.95         |
| Hades-----                  | 25                        | Fair<br>Low content of<br>organic matter<br>Too clayey                                                        | <br>0.50<br>0.98                         | Poor<br>Slope<br>Low strength<br>Shrink-swell     | <br>0.00<br>0.22<br>0.94 | Poor<br>Slope<br>Too clayey                                              | <br>0.00<br>0.98                 |
| 142:<br>Henefer-----        | 45                        | Poor<br>Too clayey<br>Low content of<br>organic matter                                                        | <br>0.00<br>0.50                         | Fair<br>Slope                                     | <br>0.08                 | Poor<br>Slope<br>Too clayey<br>Rock fragments<br>Hard to reclaim         | <br>0.00<br>0.00<br>0.03<br>0.08 |
| Harter-----                 | 40                        | Fair<br>Too clayey<br>Low content of<br>organic matter                                                        | <br>0.12<br>0.50                         | Poor<br>Low strength<br>Slope<br>Shrink-swell     | <br>0.00<br>0.08<br>0.95 | Poor<br>Slope<br>Rock fragments<br>Too clayey<br>Hard to reclaim         | <br>0.00<br>0.00<br>0.08<br>0.68 |
| 143:<br>Horrocks-----       | 65                        | Fair<br>Low content of<br>organic matter<br>Too clayey<br>Cobble content                                      | <br>0.50<br>0.98<br>0.98                 | Poor<br>Slope<br>Cobble content<br>Cobble content | <br>0.00<br>0.17<br>0.17 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim<br>Too clayey         | <br>0.00<br>0.00<br>0.02<br>0.86 |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material |       | Potential source of<br>roadfill       |       | Potential source of<br>topsoil        |       |
|-----------------------------|---------------------------|---------------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features       | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 143:<br>Agassiz-----        | 20                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.00  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Depth to bedrock                            | 0.00  | Slope                                 | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.46  | Cobble content                        | 0.72  | Depth to bedrock                      | 0.00  |
|                             |                           | Stone content                               | 0.86  | Stone content                         | 0.86  |                                       |       |
| 144:<br>Horrocks-----       | 60                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.08  | Slope                                 | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Cobble content                        | 0.17  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.98  |                                       |       | Hard to reclaim                       | 0.02  |
|                             |                           |                                             |       |                                       |       | Too clayey                            | 0.86  |
| Cutoff-----                 | 25                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too alkaline                                | 0.00  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Droughty                                    | 0.17  | Slope                                 | 0.08  | Rock fragments                        | 0.00  |
|                             |                           | Carbonate content                           | 0.80  |                                       |       | Carbonate content                     | 0.80  |
|                             |                           | Low content of<br>organic matter            | 0.88  |                                       |       | Depth to bedrock                      | 0.99  |
|                             |                           | Depth to bedrock                            | 0.99  |                                       |       |                                       |       |
| 145:<br>Horrocks-----       | 60                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Cobble content                        | 0.17  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.98  |                                       |       | Hard to reclaim                       | 0.02  |
|                             |                           |                                             |       |                                       |       | Too clayey                            | 0.86  |
| Cutoff-----                 | 25                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too alkaline                                | 0.00  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Droughty                                    | 0.17  | Depth to bedrock                      | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Carbonate content                           | 0.80  |                                       |       | Carbonate content                     | 0.80  |
|                             |                           | Low content of<br>organic matter            | 0.88  |                                       |       | Depth to bedrock                      | 0.99  |
|                             |                           | Depth to bedrock                            | 0.99  |                                       |       |                                       |       |
| 146:<br>Horrocks-----       | 65                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Cobble content                        | 0.17  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.98  |                                       |       | Hard to reclaim                       | 0.02  |
|                             |                           |                                             |       |                                       |       | Too clayey                            | 0.86  |
| Hades-----                  | 20                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Low strength                          | 0.22  | Too clayey                            | 0.98  |
|                             |                           |                                             |       | Shrink-swell                          | 0.94  |                                       |       |
| 147:<br>Hovarka-----        | 45                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Depth to<br>saturated zone            | 0.03  | Hard to reclaim                       | 0.00  |
|                             |                           |                                             |       |                                       |       | Depth to<br>saturated zone            | 0.03  |
| Millcreek-----              | 40                        | Fair                                        |       | Good                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  |                                       |       | Rock fragments                        | 0.00  |
|                             |                           | Droughty                                    | 0.91  |                                       |       | Hard to reclaim                       | 0.00  |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material                                                   |                                  | Potential source of<br>roadfill                      |                          | Potential source of<br>topsoil                                           |                                  |
|-----------------------------|---------------------------|-----------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------------------|--------------------------|--------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                                                         | Value                            | Rating class and<br>limiting features                | Value                    | Rating class and<br>limiting features                                    | Value                            |
| 148:<br>Jana-----           | 50                        | Poor<br>Droughty<br>Depth to bedrock<br>Low content of<br>organic matter<br>Carbonate content | <br>0.00<br>0.00<br>0.50<br>0.80 | Poor<br>Depth to bedrock<br>Slope                    | <br>0.00<br>0.00         | Poor<br>Slope<br>Rock fragments<br>Depth to bedrock<br>Carbonate content | <br>0.00<br>0.00<br>0.00<br>0.80 |
| Richsum-----                | 30                        | Fair<br>Carbonate content<br>Low content of<br>organic matter<br>Water erosion                | <br>0.46<br>0.50<br>0.90         | Poor<br>Slope<br>Depth to bedrock                    | <br>0.00<br>0.74         | Poor<br>Slope                                                            | <br>0.00                         |
| Rock outcrop-----           | 10                        | Not rated                                                                                     |                                  | Not rated                                            |                          | Not rated                                                                |                                  |
| 149:<br>Kovich-----         | 45                        | Fair<br>Low content of<br>organic matter                                                      | <br>0.50                         | Fair<br>Depth to<br>saturated zone                   | <br>0.14                 | Poor<br>Hard to reclaim<br>Depth to<br>saturated zone                    | <br>0.00<br>0.14                 |
| Toddspan-----               | 40                        | Fair<br>Low content of<br>organic matter<br>Stone content                                     | <br>0.50<br>0.99                 | Fair<br>Depth to<br>saturated zone<br>Cobble content | <br>0.03<br>0.92         | Poor<br>Hard to reclaim<br>Depth to<br>saturated zone                    | <br>0.00<br>0.03                 |
| 150:<br>Lucky Star-----     | 85                        | Fair<br>Low content of<br>organic matter<br>Stone content                                     | <br>0.50<br>0.89                 | Fair<br>Slope<br>Cobble content<br>Stone content     | <br>0.08<br>0.81<br>0.94 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim                       | <br>0.00<br>0.00<br>0.00         |
| 151:<br>Lucky Star-----     | 85                        | Fair<br>Low content of<br>organic matter<br>Stone content                                     | <br>0.50<br>0.89                 | Poor<br>Slope<br>Cobble content<br>Stone content     | <br>0.00<br>0.81<br>0.94 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim                       | <br>0.00<br>0.00<br>0.00         |
| 152:<br>Lucky Star-----     | 55                        | Fair<br>Low content of<br>organic matter<br>Stone content                                     | <br>0.50<br>0.89                 | Poor<br>Slope<br>Cobble content<br>Stone content     | <br>0.00<br>0.81<br>0.94 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim                       | <br>0.00<br>0.00<br>0.00         |
| Dromedary-----              | 30                        | Fair<br>Low content of<br>organic matter<br>Cobble content<br>Too clayey<br>Droughty          | <br>0.50<br>0.84<br>0.98<br>0.99 | Poor<br>Slope<br>Cobble content<br>Shrink-swell      | <br>0.00<br>0.10<br>0.97 | Poor<br>Slope<br>Hard to reclaim<br>Rock fragments<br>Too clayey         | <br>0.00<br>0.00<br>0.00<br>0.64 |
| 153:<br>Lucky Star-----     | 55                        | Fair<br>Low content of<br>organic matter<br>Stone content                                     | <br>0.50<br>0.89                 | Poor<br>Slope<br>Cobble content<br>Stone content     | <br>0.00<br>0.81<br>0.94 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim                       | <br>0.00<br>0.00<br>0.00         |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material |       | Potential source of<br>roadfill       |       | Potential source of<br>topsoil        |       |
|-----------------------------|---------------------------|---------------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features       | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 153:<br>Fewkes-----         | 30                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Carbonate content                           | 0.68  | Low strength                          | 0.22  | Rock fragments                        | 0.00  |
|                             |                           |                                             |       | Shrink-swell                          | 0.89  | Hard to reclaim                       | 0.95  |
| 154:<br>Manila-----         | 50                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Too clayey                            | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Shrink-swell                          | 0.59  | Slope                                 | 0.37  |
| Ant Flat-----               | 35                        | Fair                                        |       | Poor                                  |       | Good                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.12  | Low strength                          | 0.00  |                                       |       |
|                             |                           | Carbonate content                           | 0.80  | Shrink-swell                          | 0.78  |                                       |       |
|                             |                           | Water erosion                               | 0.90  |                                       |       |                                       |       |
| 155:<br>Manila-----         | 50                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Too clayey                            | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Shrink-swell                          | 0.59  | Slope                                 | 0.37  |
| Ant Flat-----               | 35                        | Fair                                        |       | Poor                                  |       | Fair                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.12  | Low strength                          | 0.00  | Slope                                 | 0.37  |
|                             |                           | Carbonate content                           | 0.80  | Shrink-swell                          | 0.78  |                                       |       |
|                             |                           | Water erosion                               | 0.90  |                                       |       |                                       |       |
| 156:<br>Manila-----         | 50                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Too clayey                            | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Shrink-swell                          | 0.59  |                                       |       |
| Harter-----                 | 40                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.12  | Low strength                          | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  | Shrink-swell                          | 0.95  | Too clayey                            | 0.08  |
|                             |                           |                                             |       |                                       |       | Hard to reclaim                       | 0.68  |
| 157:<br>Manila-----         | 60                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Too clayey                            | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Shrink-swell                          | 0.59  | Slope                                 | 0.37  |
| Henefer-----                | 25                        | Poor                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  |                                       |       | Too clayey                            | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  |                                       |       | Rock fragments                        | 0.03  |
|                             |                           |                                             |       |                                       |       | Hard to reclaim                       | 0.08  |
|                             |                           |                                             |       |                                       |       | Slope                                 | 0.37  |
| 158:<br>Melling-----        | 50                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.00  | Depth to bedrock                      | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Depth to bedrock                            | 0.00  | Slope                                 | 0.50  | Depth to bedrock                      | 0.00  |
|                             |                           | Cobble content                              | 0.73  | Cobble content                        | 0.72  | Slope                                 | 0.00  |
|                             |                           | Too clayey                                  | 0.98  | Shrink-swell                          | 0.87  | Too clayey                            | 0.93  |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material                                                                   |                                          | Potential source of<br>roadfill                    |                          | Potential source of<br>topsoil                                           |                                  |
|-----------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------------|--------------------------|--------------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                                                                         | Value                                    | Rating class and<br>limiting features              | Value                    | Rating class and<br>limiting features                                    | Value                            |
| 158:<br>Ayoub-----          | 30                        | Fair<br>Droughty<br>Low content of<br>organic matter<br>Depth to bedrock                                      | <br>0.52<br>0.88<br>0.90                 | Poor<br>Depth to bedrock<br>Slope<br>Stone content | <br>0.00<br>0.50<br>0.99 | Poor<br>Rock fragments<br>Slope<br>Depth to bedrock                      | <br>0.00<br>0.00<br>0.90         |
| Rock outcrop-----           | 10                        | Not rated                                                                                                     |                                          | Not rated                                          |                          | Not rated                                                                |                                  |
| 159:<br>Parkcity-----       | 70                        | Fair<br>Low content of<br>organic matter                                                                      | <br>0.50                                 | Fair<br>Slope<br>Cobble content                    | <br>0.50<br>0.90         | Poor<br>Slope<br>Hard to reclaim<br>Rock fragments                       | <br>0.00<br>0.00<br>0.00         |
| Dromedary-----              | 20                        | Fair<br>Low content of<br>organic matter<br>Cobble content<br>Too clayey<br>Droughty                          | <br>0.50<br>0.84<br>0.98<br>0.99         | Fair<br>Cobble content<br>Slope<br>Shrink-swell    | <br>0.10<br>0.50<br>0.97 | Poor<br>Slope<br>Hard to reclaim<br>Rock fragments<br>Too clayey         | <br>0.00<br>0.00<br>0.00<br>0.64 |
| 160:<br>Parkcity-----       | 70                        | Fair<br>Low content of<br>organic matter                                                                      | <br>0.50                                 | Poor<br>Slope<br>Cobble content                    | <br>0.00<br>0.90         | Poor<br>Slope<br>Hard to reclaim<br>Rock fragments                       | <br>0.00<br>0.00<br>0.00         |
| Dromedary-----              | 20                        | Fair<br>Low content of<br>organic matter<br>Cobble content<br>Too clayey<br>Droughty                          | <br>0.50<br>0.84<br>0.98<br>0.99         | Poor<br>Slope<br>Cobble content<br>Shrink-swell    | <br>0.00<br>0.10<br>0.97 | Poor<br>Slope<br>Hard to reclaim<br>Rock fragments<br>Too clayey         | <br>0.00<br>0.00<br>0.00<br>0.64 |
| 161:<br>Pits, Gravel-----   | 100                       | Not rated                                                                                                     |                                          | Not rated                                          |                          | Not rated                                                                |                                  |
| 162:<br>Richsum-----        | 70                        | Fair<br>Carbonate content<br>Low content of<br>organic matter<br>Water erosion                                | <br>0.46<br>0.50<br>0.90                 | Fair<br>Depth to bedrock                           | <br>0.74                 | Fair<br>Slope                                                            | <br>0.84                         |
| Heiners-----                | 20                        | Poor<br>Droughty<br>Depth to bedrock<br>Too alkaline<br>Low content of<br>organic matter<br>Carbonate content | <br>0.00<br>0.00<br>0.00<br>0.50<br>0.80 | Poor<br>Depth to bedrock                           | <br>0.00                 | Poor<br>Depth to bedrock<br>Rock fragments<br>Carbonate content<br>Slope | <br>0.00<br>0.00<br>0.80<br>0.84 |
| 163:<br>Richsum-----        | 60                        | Fair<br>Carbonate content<br>Low content of<br>organic matter<br>Water erosion                                | <br>0.46<br>0.50<br>0.90                 | Fair<br>Slope<br>Depth to bedrock                  | <br>0.18<br>0.74         | Poor<br>Slope                                                            | <br>0.00                         |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material |       | Potential source of<br>roadfill       |       | Potential source of<br>topsoil        |       |
|-----------------------------|---------------------------|---------------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features       | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 163:<br>Heiners-----        | 30                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.00  | Depth to bedrock                      | 0.00  | Slope                                 | 0.00  |
|                             |                           | Depth to bedrock                            | 0.00  | Slope                                 | 0.18  | Depth to bedrock                      | 0.00  |
|                             |                           | Too alkaline                                | 0.00  |                                       |       | Rock fragments                        | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  |                                       |       | Carbonate content                     | 0.80  |
|                             |                           | Carbonate content                           | 0.80  |                                       |       |                                       |       |
| 164:<br>Rock outcrop-----   | 90                        | Not rated                                   |       | Not rated                             |       | Not rated                             |       |
| 165:<br>Rock outcrop-----   | 50                        | Not rated                                   |       | Not rated                             |       | Not rated                             |       |
| Starley Family-----         | 30                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Droughty                                    | 0.00  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.00  | Cobble content                        | 0.39  |                                       |       |
|                             |                           | Stone content                               | 0.97  | Stone content                         | 0.97  |                                       |       |
|                             |                           | No cobble<br>limitation                     | 0.99  |                                       |       |                                       |       |
| 166:<br>Sessions-----       | 60                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Too clayey                            | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  | Shrink-swell                          | 0.34  |                                       |       |
|                             |                           | Carbonate content                           | 0.92  |                                       |       |                                       |       |
| Haydenfork-----             | 25                        | Fair                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Depth to<br>saturated zone            | 0.00  | Depth to<br>saturated zone            | 0.00  |
|                             |                           | Too acid                                    | 0.95  | Shrink-swell                          | 0.91  |                                       |       |
| 167:<br>Sessions-----       | 55                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Too clayey                            | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  | Shrink-swell                          | 0.34  |                                       |       |
|                             |                           | Carbonate content                           | 0.92  |                                       |       |                                       |       |
| Skutum-----                 | 30                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Rock fragments                        | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  | Depth to bedrock                      | 0.95  | Too clayey                            | 0.00  |
|                             |                           |                                             |       | Shrink-swell                          | 0.98  | Hard to reclaim                       | 0.68  |
| 168:<br>Sessions-----       | 60                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Too clayey                            | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  | Shrink-swell                          | 0.34  | Slope                                 | 0.84  |
|                             |                           | Carbonate content                           | 0.92  |                                       |       |                                       |       |
| Uinta-----                  | 25                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.88  | Slope                                 | 0.92  | Slope                                 | 0.00  |
|                             |                           |                                             |       | Shrink-swell                          | 0.97  | Rock fragments                        | 0.12  |
|                             |                           |                                             |       |                                       |       | Hard to reclaim                       | 0.68  |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material                                             |                                  | Potential source of<br>roadfill                                   |                                  | Potential source of<br>topsoil                                   |                                  |
|-----------------------------|---------------------------|-----------------------------------------------------------------------------------------|----------------------------------|-------------------------------------------------------------------|----------------------------------|------------------------------------------------------------------|----------------------------------|
|                             |                           | Rating class and<br>limiting features                                                   | Value                            | Rating class and<br>limiting features                             | Value                            | Rating class and<br>limiting features                            | Value                            |
| 169:<br>Skutum-----         | 85                        | Poor<br>Too clayey<br>Low content of<br>organic matter                                  | <br>0.00<br>0.50                 | Poor<br>Low strength<br>Depth to bedrock<br>Shrink-swell          | <br>0.00<br>0.95<br>0.98         | Poor<br>Rock fragments<br>Too clayey<br>Hard to reclaim<br>Slope | <br>0.00<br>0.00<br>0.68<br>0.84 |
| 170:<br>Skutum-----         | 85                        | Poor<br>Too clayey<br>Low content of<br>organic matter                                  | <br>0.00<br>0.50                 | Poor<br>Low strength<br>Slope<br>Depth to bedrock<br>Shrink-swell | <br>0.00<br>0.18<br>0.95<br>0.98 | Poor<br>Slope<br>Rock fragments<br>Too clayey<br>Hard to reclaim | <br>0.00<br>0.00<br>0.00<br>0.68 |
| 171:<br>Skutum-----         | 85                        | Poor<br>Too clayey<br>Low content of<br>organic matter                                  | <br>0.00<br>0.50                 | Poor<br>Slope<br>Low strength<br>Depth to bedrock<br>Shrink-swell | <br>0.00<br>0.00<br>0.95<br>0.98 | Poor<br>Slope<br>Rock fragments<br>Too clayey<br>Hard to reclaim | <br>0.00<br>0.00<br>0.00<br>0.68 |
| 172:<br>Skutum-----         | 60                        | Poor<br>Too clayey<br>Low content of<br>organic matter                                  | <br>0.00<br>0.50                 | Poor<br>Low strength<br>Slope<br>Depth to bedrock<br>Shrink-swell | <br>0.00<br>0.02<br>0.95<br>0.98 | Poor<br>Slope<br>Rock fragments<br>Too clayey<br>Hard to reclaim | <br>0.00<br>0.00<br>0.00<br>0.68 |
| Uinta-----                  | 25                        | Fair<br>Low content of<br>organic matter                                                | <br>0.88                         | Fair<br>Slope<br>Shrink-swell                                     | <br>0.02<br>0.97                 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim               | <br>0.00<br>0.12<br>0.68         |
| 173:<br>Skutum-----         | 60                        | Poor<br>Too clayey<br>Low content of<br>organic matter                                  | <br>0.00<br>0.50                 | Poor<br>Slope<br>Low strength<br>Depth to bedrock<br>Shrink-swell | <br>0.00<br>0.00<br>0.95<br>0.98 | Poor<br>Slope<br>Rock fragments<br>Too clayey<br>Hard to reclaim | <br>0.00<br>0.00<br>0.00<br>0.68 |
| Uinta-----                  | 25                        | Fair<br>Low content of<br>organic matter                                                | <br>0.88                         | Poor<br>Slope<br>Shrink-swell                                     | <br>0.00<br>0.97                 | Poor<br>Slope<br>Rock fragments<br>Hard to reclaim               | <br>0.00<br>0.12<br>0.68         |
| 174:<br>Snyderville-----    | 85                        | Fair<br>Low content of<br>organic matter<br>Droughty<br>Stone content<br>Cobble content | <br>0.12<br>0.42<br>0.64<br>0.97 | Fair<br>Cobble content<br>Stone content                           | <br>0.47<br>0.89                 | Poor<br>Rock fragments<br>Hard to reclaim                        | <br>0.00<br>0.00                 |
| 175:<br>Snyderville-----    | 85                        | Fair<br>Low content of<br>organic matter<br>Droughty<br>Stone content<br>Cobble content | <br>0.12<br>0.42<br>0.64<br>0.97 | Fair<br>Cobble content<br>Stone content                           | <br>0.47<br>0.89                 | Poor<br>Rock fragments<br>Hard to reclaim                        | <br>0.00<br>0.00                 |



Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material |       | Potential source of<br>roadfill       |       | Potential source of<br>topsoil        |       |
|-----------------------------|---------------------------|---------------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features       | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 176:<br>Snyderville-----    | 85                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.12  | Stone content                         | 0.96  | Rock fragments                        | 0.00  |
|                             |                           | Droughty                                    | 0.42  | No cobble<br>limitation               | 0.99  | Hard to reclaim                       | 0.00  |
|                             |                           | Stone content                               | 0.72  |                                       |       |                                       |       |
| 177:<br>Uinta-----          | 55                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.88  | Slope                                 | 0.18  | Slope                                 | 0.00  |
|                             |                           |                                             |       | Shrink-swell                          | 0.97  | Rock fragments                        | 0.12  |
|                             |                           |                                             |       |                                       |       | Hard to reclaim                       | 0.68  |
| Duchesne-----               | 30                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Cobble content                        | 0.15  | Hard to reclaim                       | 0.00  |
|                             |                           | Too acid                                    | 0.84  | Slope                                 | 0.18  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.87  |                                       |       | Slope                                 | 0.00  |
|                             |                           | Droughty                                    | 0.95  |                                       |       |                                       |       |
| 178:<br>Wanship-----        | 90                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Depth to<br>saturated zone            | 0.71  | Rock fragments                        | 0.00  |
|                             |                           | Droughty                                    | 0.78  |                                       |       | Hard to reclaim                       | 0.00  |
|                             |                           | Stone content                               | 0.99  |                                       |       | Depth to<br>saturated zone            | 0.71  |
| 179:<br>Wanship-----        | 55                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Depth to<br>saturated zone            | 0.71  | Rock fragments                        | 0.00  |
|                             |                           | Droughty                                    | 0.78  |                                       |       | Hard to reclaim                       | 0.00  |
|                             |                           | Stone content                               | 0.99  |                                       |       | Depth to<br>saturated zone            | 0.71  |
| Kovich-----                 | 30                        | Fair                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Low content of<br>organic matter            | 0.50  | Depth to<br>saturated zone            | 0.14  | Hard to reclaim                       | 0.00  |
|                             |                           |                                             |       |                                       |       | Depth to<br>saturated zone            | 0.14  |
| 180:<br>Yeates Hollow-----  | 55                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Too clayey                            | 0.00  |
|                             |                           | Droughty                                    | 0.34  | Depth to bedrock                      | 0.07  | Hard to reclaim                       | 0.00  |
|                             |                           | Stone content                               | 0.42  | Stone content                         | 0.10  | Rock fragments                        | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Cobble content                        | 0.11  | Slope                                 | 0.96  |
|                             |                           | Cobble content                              | 0.88  | Shrink-swell                          | 0.96  |                                       |       |
| Henefer-----                | 30                        | Poor                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  |                                       |       | Too clayey                            | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  |                                       |       | Rock fragments                        | 0.03  |
|                             |                           |                                             |       |                                       |       | Hard to reclaim                       | 0.08  |
|                             |                           |                                             |       |                                       |       | Slope                                 | 0.96  |

Table 13B.--Construction materials--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Potential source of<br>reclamation material |       | Potential source of<br>roadfill       |       | Potential source of<br>topsoil        |       |
|-----------------------------|---------------------------|---------------------------------------------|-------|---------------------------------------|-------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features       | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value |
| 181:<br>Yeates Hollow-----  | 55                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Low strength                          | 0.00  | Slope                                 | 0.00  |
|                             |                           | Droughty                                    | 0.34  | Depth to bedrock                      | 0.07  | Too clayey                            | 0.00  |
|                             |                           | Stone content                               | 0.42  | Slope                                 | 0.08  | Hard to reclaim                       | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Stone content                         | 0.10  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.88  | Cobble content                        | 0.11  |                                       |       |
|                             |                           |                                             |       | Shrink-swell                          | 0.96  |                                       |       |
| Henefer-----                | 30                        | Poor                                        |       | Fair                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Slope                                 | 0.18  | Slope                                 | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  |                                       |       | Too clayey                            | 0.00  |
|                             |                           |                                             |       |                                       |       | Rock fragments                        | 0.03  |
|                             |                           |                                             |       |                                       |       | Hard to reclaim                       | 0.08  |
| 182:<br>Yeates Hollow-----  | 55                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Droughty                                    | 0.34  | Low strength                          | 0.00  | Too clayey                            | 0.00  |
|                             |                           | Stone content                               | 0.42  | Depth to bedrock                      | 0.07  | Hard to reclaim                       | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.88  | Stone content                         | 0.10  | Rock fragments                        | 0.00  |
|                             |                           | Cobble content                              | 0.88  | Cobble content                        | 0.11  |                                       |       |
|                             |                           |                                             |       | Shrink-swell                          | 0.96  |                                       |       |
| Henefer-----                | 30                        | Poor                                        |       | Poor                                  |       | Poor                                  |       |
|                             |                           | Too clayey                                  | 0.00  | Slope                                 | 0.00  | Slope                                 | 0.00  |
|                             |                           | Low content of<br>organic matter            | 0.50  |                                       |       | Too clayey                            | 0.00  |
|                             |                           |                                             |       |                                       |       | Rock fragments                        | 0.03  |
|                             |                           |                                             |       |                                       |       | Hard to reclaim                       | 0.08  |
| 183:<br>Water-----          | 100                       | Not rated                                   |       | Not rated                             |       | Not rated                             |       |
| 184:<br>Dams-----           | 100                       | Not rated                                   |       | Not rated                             |       | Not rated                             |       |

Table 14.--Water management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Pond reservoir areas                                     |                      | Embankments, dikes, and<br>levees                        |              | Aquifer-fed<br>excavated ponds        |       |
|-----------------------------|---------------------------|----------------------------------------------------------|----------------------|----------------------------------------------------------|--------------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features                    | Value                | Rating class and<br>limiting features                    | Value        | Rating class and<br>limiting features | Value |
| 101:<br>Agassiz-----        | 60                        | Very limited<br>Depth to bedrock<br>Slope                | 1.00<br>1.00         | Very limited<br>Thin layer<br>Content of large<br>stones | 1.00<br>1.00 | Very limited<br>Deep to water         | 1.00  |
| Rock outcrop-----           | 25                        | Not rated                                                |                      | Not rated                                                |              | Not rated                             |       |
| 102:<br>Ant Flat-----       | 85                        | Somewhat limited<br>Seepage                              | 0.04                 | Not limited                                              |              | Very limited<br>Deep to water         | 1.00  |
| 103:<br>Ant Flat-----       | 85                        | Somewhat limited<br>Seepage<br>Slope                     | 0.04<br>0.01         | Not limited                                              |              | Very limited<br>Deep to water         | 1.00  |
| 104:<br>Ant Flat-----       | 90                        | Somewhat limited<br>Slope<br>Seepage                     | 0.21<br>0.04         | Not limited                                              |              | Very limited<br>Deep to water         | 1.00  |
| 105:<br>Ant Flat-----       | 40                        | Somewhat limited<br>Slope<br>Seepage                     | 0.12<br>0.04         | Not limited                                              |              | Very limited<br>Deep to water         | 1.00  |
| Henefer-----                | 30                        | Somewhat limited<br>Slope<br>Seepage                     | 0.12<br>0.04         | Not limited                                              |              | Very limited<br>Deep to water         | 1.00  |
| Skutum-----                 | 20                        | Somewhat limited<br>Seepage<br>Slope<br>Depth to bedrock | 0.72<br>0.12<br>0.01 | Somewhat limited<br>Thin layer                           | 0.01         | Very limited<br>Deep to water         | 1.00  |
| 106:<br>Ayoub-----          | 85                        | Somewhat limited<br>Depth to bedrock<br>Seepage          | 0.69<br>0.04         | Somewhat limited<br>Thin layer                           | 0.70         | Very limited<br>Deep to water         | 1.00  |
| 107:<br>Ayoub-----          | 45                        | Somewhat limited<br>Depth to bedrock<br>Slope<br>Seepage | 0.69<br>0.18<br>0.04 | Somewhat limited<br>Thin layer                           | 0.70         | Very limited<br>Deep to water         | 1.00  |
| Dunford-----                | 20                        | Somewhat limited<br>Depth to bedrock<br>Slope<br>Seepage | 0.66<br>0.18<br>0.04 | Somewhat limited<br>Thin layer                           | 0.66         | Very limited<br>Deep to water         | 1.00  |
| Melling-----                | 20                        | Very limited<br>Depth to bedrock<br>Slope                | 1.00<br>0.18         | Very limited<br>Thin layer<br>Content of large<br>stones | 1.00<br>0.63 | Very limited<br>Deep to water         | 1.00  |

Table 14.--Water management--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Pond reservoir areas                                     |                          | Embankments, dikes, and<br>levees                                            |                          | Aquifer-fed<br>excavated ponds        |          |
|-----------------------------|---------------------------|----------------------------------------------------------|--------------------------|------------------------------------------------------------------------------|--------------------------|---------------------------------------|----------|
|                             |                           | Rating class and<br>limiting features                    | Value                    | Rating class and<br>limiting features                                        | Value                    | Rating class and<br>limiting features | Value    |
| 108:<br>Ayoub-----          | 45                        | Somewhat limited<br>Slope<br>Depth to bedrock<br>Seepage | <br>0.97<br>0.69<br>0.04 | Somewhat limited<br>Thin layer                                               | <br>0.70                 | Very limited<br>Deep to water         | <br>1.00 |
| Dunford-----                | 20                        | Somewhat limited<br>Slope<br>Depth to bedrock<br>Seepage | <br>0.97<br>0.66<br>0.04 | Somewhat limited<br>Thin layer                                               | <br>0.66                 | Very limited<br>Deep to water         | <br>1.00 |
| Melling-----                | 20                        | Very limited<br>Depth to bedrock<br>Slope                | <br>1.00<br>0.97         | Very limited<br>Thin layer<br>Content of large<br>stones                     | <br>1.00<br>0.63         | Very limited<br>Deep to water         | <br>1.00 |
| 109:<br>Cluff-----          | 85                        | Somewhat limited<br>Slope<br>Seepage<br>Depth to bedrock | <br>0.10<br>0.04<br>0.03 | Somewhat limited<br>Hard to pack<br>Thin layer<br>Content of large<br>stones | <br>0.68<br>0.03<br>0.03 | Very limited<br>Deep to water         | <br>1.00 |
| 110:<br>Cluff-----          | 85                        | Somewhat limited<br>Slope<br>Seepage<br>Depth to bedrock | <br>0.97<br>0.04<br>0.03 | Somewhat limited<br>Hard to pack<br>Thin layer<br>Content of large<br>stones | <br>0.68<br>0.03<br>0.03 | Very limited<br>Deep to water         | <br>1.00 |
| 111:<br>Crandall-----       | 90                        | Somewhat limited<br>Seepage<br>Depth to bedrock          | <br>0.72<br>0.02         | Somewhat limited<br>Thin layer                                               | <br>0.02                 | Very limited<br>Deep to water         | <br>1.00 |
| 112:<br>Crandall-----       | 55                        | Somewhat limited<br>Seepage<br>Slope<br>Depth to bedrock | <br>0.72<br>0.12<br>0.02 | Somewhat limited<br>Thin layer                                               | <br>0.02                 | Very limited<br>Deep to water         | <br>1.00 |
| Lucky Star-----             | 30                        | Very limited<br>Seepage<br>Slope                         | <br>1.00<br>0.06         | Somewhat limited<br>Content of large<br>stones                               | <br>0.03                 | Very limited<br>Deep to water         | <br>1.00 |
| 113:<br>Crandall-----       | 50                        | Somewhat limited<br>Slope<br>Seepage<br>Depth to bedrock | <br>0.97<br>0.72<br>0.02 | Somewhat limited<br>Thin layer                                               | <br>0.02                 | Very limited<br>Deep to water         | <br>1.00 |
| Lucky Star-----             | 20                        | Very limited<br>Seepage<br>Slope                         | <br>1.00<br>0.97         | Somewhat limited<br>Content of large<br>stones                               | <br>0.03                 | Very limited<br>Deep to water         | <br>1.00 |
| Starley Family-----         | 15                        | Very limited<br>Slope                                    | <br>1.00                 | Somewhat limited<br>Content of large<br>stones                               | <br>0.17                 | Very limited<br>Deep to water         | <br>1.00 |

Table 14.--Water management--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Pond reservoir areas                                     |                          | Embankments, dikes, and<br>levees                               |                          | Aquifer-fed<br>excavated ponds               |                  |
|-----------------------------|---------------------------|----------------------------------------------------------|--------------------------|-----------------------------------------------------------------|--------------------------|----------------------------------------------|------------------|
|                             |                           | Rating class and<br>limiting features                    | Value                    | Rating class and<br>limiting features                           | Value                    | Rating class and<br>limiting features        | Value            |
| 114:<br>Crandall-----       | 50                        | Somewhat limited<br>Seepage<br>Slope<br>Depth to bedrock | <br>0.72<br>0.06<br>0.02 | Somewhat limited<br>Thin layer                                  | <br>0.02                 | Very limited<br>Deep to water                | <br>1.00         |
| Starley Family-----         | 30                        | Somewhat limited<br>Slope                                | <br>0.06                 | Somewhat limited<br>Content of large<br>stones                  | <br>0.17                 | Very limited<br>Deep to water                | <br>1.00         |
| Rock outcrop-----           | 10                        | Not rated                                                |                          | Not rated                                                       |                          | Not rated                                    |                  |
| 115:<br>Dastrup-----        | 90                        | Somewhat limited<br>Seepage                              | <br>0.04                 | Somewhat limited<br>Piping                                      | <br>0.52                 | Very limited<br>Deep to water                | <br>1.00         |
| 116:<br>Dastrup-----        | 85                        | Somewhat limited<br>Seepage                              | <br>0.04                 | Somewhat limited<br>Piping                                      | <br>0.52                 | Very limited<br>Deep to water                | <br>1.00         |
| 117:<br>Dastrup-----        | 85                        | Somewhat limited<br>Slope<br>Seepage                     | <br>0.18<br>0.04         | Somewhat limited<br>Piping                                      | <br>0.52                 | Very limited<br>Deep to water                | <br>1.00         |
| 118:<br>Dromedary-----      | 70                        | Very limited<br>Seepage<br>Slope                         | <br>1.00<br>1.00         | Somewhat limited<br>Content of large<br>stones                  | <br>0.33                 | Very limited<br>Deep to water                | <br>1.00         |
| Rock outcrop-----           | 15                        | Not rated                                                |                          | Not rated                                                       |                          | Not rated                                    |                  |
| 119:<br>Duchesne-----       | 85                        | Somewhat limited<br>Seepage                              | <br>0.72                 | Somewhat limited<br>Content of large<br>stones                  | <br>0.30                 | Very limited<br>Deep to water                | <br>1.00         |
| 120:<br>Duchesne-----       | 85                        | Somewhat limited<br>Seepage<br>Slope                     | <br>0.72<br>0.18         | Somewhat limited<br>Content of large<br>stones                  | <br>0.30                 | Very limited<br>Deep to water                | <br>1.00         |
| 121:<br>Duchesne-----       | 85                        | Somewhat limited<br>Slope<br>Seepage                     | <br>0.97<br>0.72         | Somewhat limited<br>Content of large<br>stones                  | <br>0.30                 | Very limited<br>Deep to water                | <br>1.00         |
| 122:<br>Duchesne-----       | 60                        | Somewhat limited<br>Seepage<br>Slope                     | <br>0.72<br>0.18         | Somewhat limited<br>Content of large<br>stones                  | <br>0.30                 | Very limited<br>Deep to water                | <br>1.00         |
| Haydenfork-----             | 25                        | Somewhat limited<br>Seepage                              | <br>0.72                 | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Piping | <br>1.00<br>1.00<br>0.69 | Very limited<br>Cutbanks cave<br>Slow refill | <br>1.00<br>0.28 |

Table 14.--Water management--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Pond reservoir areas                  |       | Embankments, dikes, and<br>levees     |       | Aquifer-fed<br>excavated ponds        |              |
|-----------------------------|---------------------------|---------------------------------------|-------|---------------------------------------|-------|---------------------------------------|--------------|
|                             |                           | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value | Rating class and<br>limiting features | Value        |
| 123:<br>Dumps, Mines-----   | 100                       | Not rated                             |       | Not rated                             |       | Not rated                             |              |
| 124:<br>Dunford-----        | 45                        | Somewhat limited                      |       | Somewhat limited                      |       | Very limited                          |              |
|                             |                           | Depth to bedrock                      | 0.66  | Thin layer                            | 0.66  | Deep to water                         | 1.00         |
|                             |                           | Slope                                 | 0.18  |                                       |       |                                       |              |
|                             |                           | Seepage                               | 0.04  |                                       |       |                                       |              |
| Ayoub-----                  | 20                        | Somewhat limited                      |       | Somewhat limited                      |       | Very limited                          |              |
|                             |                           | Depth to bedrock                      | 0.69  | Thin layer                            | 0.70  | Deep to water                         | 1.00         |
|                             |                           | Slope                                 | 0.18  |                                       |       |                                       |              |
|                             |                           | Seepage                               | 0.04  |                                       |       |                                       |              |
| Melling-----                | 20                        | Very limited                          |       | Very limited                          |       | Very limited                          |              |
|                             |                           | Depth to bedrock                      | 1.00  | Thin layer                            | 1.00  | Deep to water                         | 1.00         |
|                             |                           | Slope                                 | 0.18  | Content of large<br>stones            | 0.63  |                                       |              |
| 125:<br>Dunford-----        | 45                        | Somewhat limited                      |       | Somewhat limited                      |       | Very limited                          |              |
|                             |                           | Slope                                 | 0.97  | Thin layer                            | 0.66  | Deep to water                         | 1.00         |
|                             |                           | Depth to bedrock                      | 0.66  |                                       |       |                                       |              |
|                             |                           | Seepage                               | 0.04  |                                       |       |                                       |              |
| Ayoub-----                  | 20                        | Somewhat limited                      |       | Somewhat limited                      |       | Very limited                          |              |
|                             |                           | Slope                                 | 0.97  | Thin layer                            | 0.70  | Deep to water                         | 1.00         |
|                             |                           | Depth to bedrock                      | 0.69  |                                       |       |                                       |              |
|                             |                           | Seepage                               | 0.04  |                                       |       |                                       |              |
| Melling-----                | 20                        | Very limited                          |       | Very limited                          |       | Very limited                          |              |
|                             |                           | Depth to bedrock                      | 1.00  | Thin layer                            | 1.00  | Deep to water                         | 1.00         |
|                             |                           | Slope                                 | 0.97  | Content of large<br>stones            | 0.63  |                                       |              |
| 126:<br>Echocreek-----      | 85                        | Somewhat limited                      |       | Very limited                          |       | Very limited                          |              |
|                             |                           | Seepage                               | 0.72  | Piping                                | 1.00  | Deep to water                         | 1.00         |
| 127:<br>Echocreek-----      | 65                        | Somewhat limited                      |       | Very limited                          |       | Very limited                          |              |
|                             |                           | Seepage                               | 0.72  | Piping                                | 1.00  | Deep to water                         | 1.00         |
| Kovich-----                 | 20                        | Somewhat limited                      |       | Very limited                          |       | Very limited                          |              |
|                             |                           | Seepage                               | 0.72  | Depth to<br>saturated zone            | 1.00  | Cutbanks cave<br>Slow refill          | 1.00<br>0.28 |
| 128:<br>Fewkes-----         | 85                        | Somewhat limited                      |       | Somewhat limited                      |       | Very limited                          |              |
|                             |                           | Seepage                               | 0.54  | Piping                                | 0.27  | Deep to water                         | 1.00         |
| 129:<br>Fewkes-----         | 85                        | Somewhat limited                      |       | Somewhat limited                      |       | Very limited                          |              |
|                             |                           | Seepage                               | 0.54  | Piping                                | 0.27  | Deep to water                         | 1.00         |
|                             |                           | Slope                                 | 0.01  |                                       |       |                                       |              |
| 130:<br>Fewkes-----         | 85                        | Somewhat limited                      |       | Somewhat limited                      |       | Very limited                          |              |
|                             |                           | Seepage                               | 0.54  | Piping                                | 0.27  | Deep to water                         | 1.00         |
|                             |                           | Slope                                 | 0.18  |                                       |       |                                       |              |

Table 14.--Water management--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Pond reservoir areas                                     |                          | Embankments, dikes, and<br>levees                                            |                              | Aquifer-fed<br>excavated ponds        |          |
|-----------------------------|---------------------------|----------------------------------------------------------|--------------------------|------------------------------------------------------------------------------|------------------------------|---------------------------------------|----------|
|                             |                           | Rating class and<br>limiting features                    | Value                    | Rating class and<br>limiting features                                        | Value                        | Rating class and<br>limiting features | Value    |
| 131:<br>Fewkes-----         | 60                        | Somewhat limited<br>Slope<br>Seepage                     | <br>0.97<br>0.54         | Somewhat limited<br>Piping                                                   | <br>0.27                     | Very limited<br>Deep to water         | <br>1.00 |
| Heiners-----                | 25                        | Somewhat limited<br>Slope<br>Depth to bedrock<br>Seepage | <br>0.99<br>0.50<br>0.04 | Very limited<br>Thin layer<br>Content of large<br>stones                     | <br>1.00<br>0.01             | Very limited<br>Deep to water         | <br>1.00 |
| 132:<br>Fewkes-----         | 55                        | Somewhat limited<br>Seepage<br>Slope                     | <br>0.54<br>0.18         | Somewhat limited<br>Piping                                                   | <br>0.27                     | Very limited<br>Deep to water         | <br>1.00 |
| Hades-----                  | 30                        | Somewhat limited<br>Slope<br>Seepage                     | <br>0.18<br>0.04         | Somewhat limited<br>Piping                                                   | <br>0.22                     | Very limited<br>Deep to water         | <br>1.00 |
| 133:<br>Fewkes-----         | 55                        | Somewhat limited<br>Slope<br>Seepage                     | <br>0.97<br>0.54         | Somewhat limited<br>Piping                                                   | <br>0.27                     | Very limited<br>Deep to water         | <br>1.00 |
| Hades-----                  | 30                        | Somewhat limited<br>Slope<br>Seepage                     | <br>0.97<br>0.04         | Somewhat limited<br>Piping                                                   | <br>0.22                     | Very limited<br>Deep to water         | <br>1.00 |
| 134:<br>Fewkes-----         | 55                        | Somewhat limited<br>Seepage                              | <br>0.54                 | Somewhat limited<br>Piping                                                   | <br>0.27                     | Very limited<br>Deep to water         | <br>1.00 |
| Yeates Hollow-----          | 30                        | Somewhat limited<br>Depth to bedrock<br>Seepage          | <br>0.33<br>0.04         | Somewhat limited<br>Hard to pack<br>Content of large<br>stones<br>Thin layer | <br>0.88<br>0.85<br><br>0.34 | Very limited<br>Deep to water         | <br>1.00 |
| 135:<br>Fewkes-----         | 55                        | Somewhat limited<br>Seepage<br>Slope                     | <br>0.54<br>0.28         | Somewhat limited<br>Piping                                                   | <br>0.27                     | Very limited<br>Deep to water         | <br>1.00 |
| Yeates Hollow-----          | 30                        | Somewhat limited<br>Depth to bedrock<br>Slope<br>Seepage | <br>0.33<br>0.21<br>0.04 | Somewhat limited<br>Hard to pack<br>Content of large<br>stones<br>Thin layer | <br>0.88<br>0.85<br><br>0.34 | Very limited<br>Deep to water         | <br>1.00 |
| 136:<br>Hades-----          | 50                        | Very limited<br>Slope<br>Seepage                         | <br>1.00<br>0.04         | Somewhat limited<br>Piping                                                   | <br>0.22                     | Very limited<br>Deep to water         | <br>1.00 |
| Agassiz-----                | 30                        | Very limited<br>Depth to bedrock<br>Slope                | <br>1.00<br>1.00         | Very limited<br>Thin layer<br>Content of large<br>stones                     | <br>1.00<br>1.00             | Very limited<br>Deep to water         | <br>1.00 |
| Rock outcrop-----           | 10                        | Not rated                                                |                          | Not rated                                                                    |                              | Not rated                             |          |



Table 14.--Water management--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Pond reservoir areas                                     |                      | Embankments, dikes, and<br>levees                        |              | Aquifer-fed<br>excavated ponds        |       |
|-----------------------------|---------------------------|----------------------------------------------------------|----------------------|----------------------------------------------------------|--------------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features                    | Value                | Rating class and<br>limiting features                    | Value        | Rating class and<br>limiting features | Value |
| 137:<br>Hades-----          | 55                        | Somewhat limited<br>Slope<br>Seepage                     | 0.21<br>0.04         | Somewhat limited<br>Piping                               | 0.22         | Very limited<br>Deep to water         | 1.00  |
| Fewkes-----                 | 30                        | Somewhat limited<br>Seepage<br>Slope                     | 0.54<br>0.21         | Somewhat limited<br>Piping                               | 0.27         | Very limited<br>Deep to water         | 1.00  |
| 138:<br>Hades-----          | 55                        | Somewhat limited<br>Slope<br>Seepage                     | 0.97<br>0.04         | Somewhat limited<br>Piping                               | 0.22         | Very limited<br>Deep to water         | 1.00  |
| Fewkes-----                 | 30                        | Somewhat limited<br>Slope<br>Seepage                     | 0.97<br>0.54         | Somewhat limited<br>Piping                               | 0.27         | Very limited<br>Deep to water         | 1.00  |
| 139:<br>Harter-----         | 85                        | Somewhat limited<br>Seepage                              | 0.04                 | Somewhat limited<br>Hard to pack                         | 0.72         | Very limited<br>Deep to water         | 1.00  |
| 140:<br>Heiners-----        | 60                        | Somewhat limited<br>Depth to bedrock<br>Slope<br>Seepage | 0.50<br>0.21<br>0.04 | Very limited<br>Thin layer<br>Content of large<br>stones | 1.00<br>0.01 | Very limited<br>Deep to water         | 1.00  |
| Fewkes-----                 | 25                        | Somewhat limited<br>Seepage<br>Slope                     | 0.54<br>0.21         | Somewhat limited<br>Piping                               | 0.27         | Very limited<br>Deep to water         | 1.00  |
| 141:<br>Heiners-----        | 35                        | Very limited<br>Slope<br>Depth to bedrock<br>Seepage     | 1.00<br>0.50<br>0.04 | Very limited<br>Thin layer<br>Content of large<br>stones | 1.00<br>0.01 | Very limited<br>Deep to water         | 1.00  |
| Fewkes-----                 | 25                        | Somewhat limited<br>Slope<br>Seepage                     | 0.97<br>0.54         | Somewhat limited<br>Piping                               | 0.27         | Very limited<br>Deep to water         | 1.00  |
| Hades-----                  | 25                        | Somewhat limited<br>Slope<br>Seepage                     | 0.97<br>0.04         | Somewhat limited<br>Piping                               | 0.22         | Very limited<br>Deep to water         | 1.00  |
| 142:<br>Henefer-----        | 45                        | Somewhat limited<br>Slope<br>Seepage                     | 0.21<br>0.04         | Not limited                                              |              | Very limited<br>Deep to water         | 1.00  |
| Harter-----                 | 40                        | Somewhat limited<br>Slope<br>Seepage                     | 0.21<br>0.04         | Somewhat limited<br>Hard to pack                         | 0.72         | Very limited<br>Deep to water         | 1.00  |
| 143:<br>Horrocks-----       | 65                        | Somewhat limited<br>Slope<br>Seepage                     | 0.97<br>0.72         | Somewhat limited<br>Content of large<br>stones           | 0.27         | Very limited<br>Deep to water         | 1.00  |

Table 14.--Water management--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Pond reservoir areas                                     |                      | Embankments, dikes, and<br>levees                        |              | Aquifer-fed<br>excavated ponds                 |              |
|-----------------------------|---------------------------|----------------------------------------------------------|----------------------|----------------------------------------------------------|--------------|------------------------------------------------|--------------|
|                             |                           | Rating class and<br>limiting features                    | Value                | Rating class and<br>limiting features                    | Value        | Rating class and<br>limiting features          | Value        |
| 143:<br>Agassiz-----        | 20                        | Very limited<br>Depth to bedrock<br>Slope                | 1.00<br>1.00         | Very limited<br>Thin layer<br>Content of large<br>stones | 1.00<br>1.00 | Very limited<br>Deep to water                  | 1.00         |
| 144:<br>Horrocks-----       | 60                        | Somewhat limited<br>Seepage<br>Slope                     | 0.72<br>0.21         | Somewhat limited<br>Content of large<br>stones           | 0.27         | Very limited<br>Deep to water                  | 1.00         |
| Cutoff-----                 | 25                        | Somewhat limited<br>Seepage<br>Depth to bedrock<br>Slope | 0.72<br>0.56<br>0.21 | Somewhat limited<br>Thin layer                           | 0.56         | Very limited<br>Deep to water                  | 1.00         |
| 145:<br>Horrocks-----       | 60                        | Somewhat limited<br>Slope<br>Seepage                     | 0.97<br>0.72         | Somewhat limited<br>Content of large<br>stones           | 0.27         | Very limited<br>Deep to water                  | 1.00         |
| Cutoff-----                 | 25                        | Somewhat limited<br>Slope<br>Seepage<br>Depth to bedrock | 0.97<br>0.72<br>0.56 | Somewhat limited<br>Thin layer                           | 0.56         | Very limited<br>Deep to water                  | 1.00         |
| 146:<br>Horrocks-----       | 65                        | Somewhat limited<br>Slope<br>Seepage                     | 0.97<br>0.72         | Somewhat limited<br>Content of large<br>stones           | 0.27         | Very limited<br>Deep to water                  | 1.00         |
| Hades-----                  | 20                        | Somewhat limited<br>Slope<br>Seepage                     | 0.97<br>0.04         | Somewhat limited<br>Piping                               | 0.22         | Very limited<br>Deep to water                  | 1.00         |
| 147:<br>Hovarka-----        | 45                        | Very limited<br>Seepage                                  | 1.00                 | Very limited<br>Depth to<br>saturated zone<br>Seepage    | 1.00<br>0.03 | Very limited<br>Cutbanks cave                  | 1.00         |
| Millcreek-----              | 40                        | Very limited<br>Seepage                                  | 1.00                 | Somewhat limited<br>Seepage                              | 0.01         | Very limited<br>Cutbanks cave<br>Deep to water | 1.00<br>0.85 |
| 148:<br>Jana-----           | 50                        | Very limited<br>Slope<br>Depth to bedrock<br>Seepage     | 1.00<br>0.78<br>0.04 | Very limited<br>Thin layer<br>Content of large<br>stones | 1.00<br>0.02 | Very limited<br>Deep to water                  | 1.00         |
| Richsum-----                | 30                        | Somewhat limited<br>Slope<br>Seepage<br>Depth to bedrock | 0.97<br>0.72<br>0.01 | Somewhat limited<br>Piping<br>Thin layer                 | 0.88<br>0.06 | Very limited<br>Deep to water                  | 1.00         |
| Rock outcrop-----           | 10                        | Not rated                                                |                      | Not rated                                                |              | Not rated                                      |              |

Table 14.--Water management--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Pond reservoir areas                  |              | Embankments, dikes, and<br>levees                     |              | Aquifer-fed<br>excavated ponds               |              |
|-----------------------------|---------------------------|---------------------------------------|--------------|-------------------------------------------------------|--------------|----------------------------------------------|--------------|
|                             |                           | Rating class and<br>limiting features | Value        | Rating class and<br>limiting features                 | Value        | Rating class and<br>limiting features        | Value        |
| 149:<br>Kovich-----         | 45                        | Somewhat limited<br>Seepage           | 0.72         | Very limited<br>Depth to<br>saturated zone            | 1.00         | Very limited<br>Cutbanks cave<br>Slow refill | 1.00<br>0.28 |
| Toddspan-----               | 40                        | Very limited<br>Seepage               | 1.00         | Very limited<br>Depth to<br>saturated zone<br>Seepage | 1.00<br>0.03 | Very limited<br>Cutbanks cave                | 1.00         |
| 150:<br>Lucky Star-----     | 85                        | Very limited<br>Seepage<br>Slope      | 1.00<br>0.21 | Somewhat limited<br>Content of large<br>stones        | 0.03         | Very limited<br>Deep to water                | 1.00         |
| 151:<br>Lucky Star-----     | 85                        | Very limited<br>Seepage<br>Slope      | 1.00<br>0.97 | Somewhat limited<br>Content of large<br>stones        | 0.03         | Very limited<br>Deep to water                | 1.00         |
| 152:<br>Lucky Star-----     | 55                        | Very limited<br>Seepage<br>Slope      | 1.00<br>0.97 | Somewhat limited<br>Content of large<br>stones        | 0.03         | Very limited<br>Deep to water                | 1.00         |
| Dromedary-----              | 30                        | Very limited<br>Seepage<br>Slope      | 1.00<br>0.99 | Somewhat limited<br>Content of large<br>stones        | 0.33         | Very limited<br>Deep to water                | 1.00         |
| 153:<br>Lucky Star-----     | 55                        | Very limited<br>Seepage<br>Slope      | 1.00<br>0.94 | Somewhat limited<br>Content of large<br>stones        | 0.03         | Very limited<br>Deep to water                | 1.00         |
| Fewkes-----                 | 30                        | Somewhat limited<br>Slope<br>Seepage  | 0.94<br>0.54 | Somewhat limited<br>Piping                            | 0.27         | Very limited<br>Deep to water                | 1.00         |
| 154:<br>Manila-----         | 50                        | Somewhat limited<br>Seepage<br>Slope  | 0.04<br>0.01 | Somewhat limited<br>Hard to pack                      | 0.73         | Very limited<br>Deep to water                | 1.00         |
| Ant Flat-----               | 35                        | Somewhat limited<br>Seepage           | 0.04         | Not limited                                           |              | Very limited<br>Deep to water                | 1.00         |
| 155:<br>Manila-----         | 50                        | Somewhat limited<br>Seepage<br>Slope  | 0.04<br>0.01 | Somewhat limited<br>Hard to pack                      | 0.73         | Very limited<br>Deep to water                | 1.00         |
| Ant Flat-----               | 35                        | Somewhat limited<br>Seepage<br>Slope  | 0.04<br>0.01 | Not limited                                           |              | Very limited<br>Deep to water                | 1.00         |
| 156:<br>Manila-----         | 50                        | Somewhat limited<br>Seepage           | 0.04         | Somewhat limited<br>Hard to pack                      | 0.73         | Very limited<br>Deep to water                | 1.00         |
| Harter-----                 | 40                        | Somewhat limited<br>Seepage           | 0.04         | Somewhat limited<br>Hard to pack                      | 0.72         | Very limited<br>Deep to water                | 1.00         |

Table 14.--Water management--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Pond reservoir areas                                     |                      | Embankments, dikes, and<br>levees                        |              | Aquifer-fed<br>excavated ponds        |       |
|-----------------------------|---------------------------|----------------------------------------------------------|----------------------|----------------------------------------------------------|--------------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features                    | Value                | Rating class and<br>limiting features                    | Value        | Rating class and<br>limiting features | Value |
| 157:<br>Manila-----         | 60                        | Somewhat limited<br>Seepage<br>Slope                     | 0.04<br>0.01         | Somewhat limited<br>Hard to pack                         | 0.73         | Very limited<br>Deep to water         | 1.00  |
| Henefer-----                | 25                        | Somewhat limited<br>Seepage<br>Slope                     | 0.04<br>0.01         | Not limited                                              |              | Very limited<br>Deep to water         | 1.00  |
| 158:<br>Melling-----        | 50                        | Very limited<br>Depth to bedrock<br>Slope                | 1.00<br>0.12         | Very limited<br>Thin layer<br>Content of large<br>stones | 1.00<br>0.63 | Very limited<br>Deep to water         | 1.00  |
| Ayoub-----                  | 30                        | Somewhat limited<br>Depth to bedrock<br>Slope<br>Seepage | 0.69<br>0.12<br>0.04 | Somewhat limited<br>Thin layer                           | 0.70         | Very limited<br>Deep to water         | 1.00  |
| Rock outcrop-----           | 10                        | Not rated                                                |                      | Not rated                                                |              | Not rated                             |       |
| 159:<br>Parkcity-----       | 70                        | Somewhat limited<br>Seepage<br>Slope                     | 0.72<br>0.12         | Not limited                                              |              | Very limited<br>Deep to water         | 1.00  |
| Dromedary-----              | 20                        | Very limited<br>Seepage<br>Slope                         | 1.00<br>0.12         | Somewhat limited<br>Content of large<br>stones           | 0.33         | Very limited<br>Deep to water         | 1.00  |
| 160:<br>Parkcity-----       | 70                        | Somewhat limited<br>Slope<br>Seepage                     | 0.97<br>0.72         | Not limited                                              |              | Very limited<br>Deep to water         | 1.00  |
| Dromedary-----              | 20                        | Very limited<br>Seepage<br>Slope                         | 1.00<br>1.00         | Somewhat limited<br>Content of large<br>stones           | 0.33         | Very limited<br>Deep to water         | 1.00  |
| 161:<br>Pits, Gravel-----   | 100                       | Not rated                                                |                      | Not rated                                                |              | Not rated                             |       |
| 162:<br>Richsum-----        | 70                        | Somewhat limited<br>Seepage<br>Depth to bedrock          | 0.72<br>0.01         | Somewhat limited<br>Piping<br>Thin layer                 | 0.88<br>0.06 | Very limited<br>Deep to water         | 1.00  |
| Heiners-----                | 20                        | Somewhat limited<br>Depth to bedrock<br>Seepage          | 0.50<br>0.04         | Very limited<br>Thin layer<br>Content of large<br>stones | 1.00<br>0.01 | Very limited<br>Deep to water         | 1.00  |
| 163:<br>Richsum-----        | 60                        | Somewhat limited<br>Seepage<br>Slope<br>Depth to bedrock | 0.72<br>0.18<br>0.01 | Somewhat limited<br>Piping<br>Thin layer                 | 0.88<br>0.06 | Very limited<br>Deep to water         | 1.00  |

Table 14.--Water management--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Pond reservoir areas                                     |                      | Embankments, dikes, and<br>levees                               |                      | Aquifer-fed<br>excavated ponds               |              |
|-----------------------------|---------------------------|----------------------------------------------------------|----------------------|-----------------------------------------------------------------|----------------------|----------------------------------------------|--------------|
|                             |                           | Rating class and<br>limiting features                    | Value                | Rating class and<br>limiting features                           | Value                | Rating class and<br>limiting features        | Value        |
| 163:<br>Heiners-----        | 30                        | Somewhat limited<br>Depth to bedrock<br>Slope<br>Seepage | 0.50<br>0.18<br>0.04 | Very limited<br>Thin layer<br>Content of large<br>stones        | 1.00<br>0.01         | Very limited<br>Deep to water                | 1.00         |
| 164:<br>Rock outcrop-----   | 90                        | Not rated                                                |                      | Not rated                                                       |                      | Not rated                                    |              |
| 165:<br>Rock outcrop-----   | 50                        | Not rated                                                |                      | Not rated                                                       |                      | Not rated                                    |              |
| Starley Family-----         | 30                        | Very limited<br>Slope                                    | 1.00                 | Somewhat limited<br>Content of large<br>stones                  | 0.17                 | Very limited<br>Deep to water                | 1.00         |
| 166:<br>Sessions-----       | 60                        | Somewhat limited<br>Seepage                              | 0.04                 | Somewhat limited<br>Hard to pack                                | 0.54                 | Very limited<br>Deep to water                | 1.00         |
| Haydenfork-----             | 25                        | Somewhat limited<br>Seepage                              | 0.72                 | Very limited<br>Ponding<br>Depth to<br>saturated zone<br>Piping | 1.00<br>1.00<br>0.69 | Very limited<br>Cutbanks cave<br>Slow refill | 1.00<br>0.28 |
| 167:<br>Sessions-----       | 55                        | Somewhat limited<br>Seepage                              | 0.04                 | Somewhat limited<br>Hard to pack                                | 0.54                 | Very limited<br>Deep to water                | 1.00         |
| Skutum-----                 | 30                        | Somewhat limited<br>Seepage<br>Depth to bedrock          | 0.72<br>0.01         | Somewhat limited<br>Thin layer                                  | 0.01                 | Very limited<br>Deep to water                | 1.00         |
| 168:<br>Sessions-----       | 60                        | Somewhat limited<br>Seepage                              | 0.04                 | Somewhat limited<br>Hard to pack                                | 0.54                 | Very limited<br>Deep to water                | 1.00         |
| Uinta-----                  | 25                        | Very limited<br>Seepage<br>Slope                         | 1.00<br>0.06         | Not limited                                                     |                      | Very limited<br>Deep to water                | 1.00         |
| 169:<br>Skutum-----         | 85                        | Somewhat limited<br>Seepage<br>Depth to bedrock          | 0.72<br>0.01         | Somewhat limited<br>Thin layer                                  | 0.01                 | Very limited<br>Deep to water                | 1.00         |
| 170:<br>Skutum-----         | 85                        | Somewhat limited<br>Seepage<br>Slope<br>Depth to bedrock | 0.72<br>0.18<br>0.01 | Somewhat limited<br>Thin layer                                  | 0.01                 | Very limited<br>Deep to water                | 1.00         |
| 171:<br>Skutum-----         | 85                        | Very limited<br>Slope<br>Seepage<br>Depth to bedrock     | 1.00<br>0.72<br>0.01 | Somewhat limited<br>Thin layer                                  | 0.01                 | Very limited<br>Deep to water                | 1.00         |

Table 14.--Water management--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Pond reservoir areas                                     |                          | Embankments, dikes, and<br>levees                         |                  | Aquifer-fed<br>excavated ponds                 |              |
|-----------------------------|---------------------------|----------------------------------------------------------|--------------------------|-----------------------------------------------------------|------------------|------------------------------------------------|--------------|
|                             |                           | Rating class and<br>limiting features                    | Value                    | Rating class and<br>limiting features                     | Value            | Rating class and<br>limiting features          | Value        |
| 172:<br>Skutum-----         | 60                        | Somewhat limited<br>Seepage<br>Slope<br>Depth to bedrock | <br>0.72<br>0.24<br>0.01 | Somewhat limited<br>Thin layer                            | 0.01             | Very limited<br>Deep to water                  | 1.00         |
| Uinta-----                  | 25                        | Very limited<br>Seepage<br>Slope                         | <br>1.00<br>0.24         | Not limited                                               |                  | Very limited<br>Deep to water                  | 1.00         |
| 173:<br>Skutum-----         | 60                        | Somewhat limited<br>Slope<br>Seepage<br>Depth to bedrock | <br>0.88<br>0.72<br>0.01 | Somewhat limited<br>Thin layer                            | 0.01             | Very limited<br>Deep to water                  | 1.00         |
| Uinta-----                  | 25                        | Very limited<br>Seepage<br>Slope                         | <br>1.00<br>0.97         | Not limited                                               |                  | Very limited<br>Deep to water                  | 1.00         |
| 174:<br>Snyderville-----    | 85                        | Very limited<br>Seepage                                  | <br>1.00                 | Somewhat limited<br>Seepage<br>Content of large<br>stones | <br>0.19<br>0.18 | Very limited<br>Deep to water                  | 1.00         |
| 175:<br>Snyderville-----    | 85                        | Very limited<br>Seepage                                  | <br>1.00                 | Somewhat limited<br>Seepage<br>Content of large<br>stones | <br>0.19<br>0.18 | Very limited<br>Deep to water                  | 1.00         |
| 176:<br>Snyderville-----    | 85                        | Very limited<br>Seepage                                  | <br>1.00                 | Somewhat limited<br>Seepage                               | 0.19             | Very limited<br>Deep to water                  | 1.00         |
| 177:<br>Uinta-----          | 55                        | Very limited<br>Seepage<br>Slope                         | <br>1.00<br>0.18         | Not limited                                               |                  | Very limited<br>Deep to water                  | 1.00         |
| Duchesne-----               | 30                        | Somewhat limited<br>Seepage<br>Slope                     | <br>0.72<br>0.18         | Somewhat limited<br>Content of large<br>stones            | 0.30             | Very limited<br>Deep to water                  | 1.00         |
| 178:<br>Wanship-----        | 90                        | Very limited<br>Seepage                                  | <br>1.00                 | Somewhat limited<br>Depth to<br>saturated zone            | 0.97             | Very limited<br>Cutbanks cave<br>Deep to water | 1.00<br>0.01 |
| 179:<br>Wanship-----        | 55                        | Very limited<br>Seepage                                  | <br>1.00                 | Somewhat limited<br>Depth to<br>saturated zone            | 0.97             | Very limited<br>Cutbanks cave<br>Deep to water | 1.00<br>0.01 |
| Kovich-----                 | 30                        | Somewhat limited<br>Seepage                              | <br>0.72                 | Very limited<br>Depth to<br>saturated zone                | 1.00             | Very limited<br>Cutbanks cave<br>Slow refill   | 1.00<br>0.28 |

Table 14.--Water management--continued

| Map symbol<br>and soil name | Pct.<br>of<br>map<br>unit | Pond reservoir areas                                     |                      | Embankments, dikes, and<br>levees                                            |                      | Aquifer-fed<br>excavated ponds        |       |
|-----------------------------|---------------------------|----------------------------------------------------------|----------------------|------------------------------------------------------------------------------|----------------------|---------------------------------------|-------|
|                             |                           | Rating class and<br>limiting features                    | Value                | Rating class and<br>limiting features                                        | Value                | Rating class and<br>limiting features | Value |
| 180:<br>Yeates Hollow-----  | 55                        | Somewhat limited<br>Depth to bedrock<br>Seepage          | 0.33<br>0.04         | Somewhat limited<br>Hard to pack<br>Content of large<br>stones<br>Thin layer | 0.88<br>0.85<br>0.34 | Very limited<br>Deep to water         | 1.00  |
| Henefer-----                | 30                        | Somewhat limited<br>Seepage                              | 0.04                 | Not limited                                                                  |                      | Very limited<br>Deep to water         | 1.00  |
| 181:<br>Yeates Hollow-----  | 55                        | Somewhat limited<br>Depth to bedrock<br>Slope<br>Seepage | 0.33<br>0.21<br>0.04 | Somewhat limited<br>Hard to pack<br>Content of large<br>stones<br>Thin layer | 0.88<br>0.85<br>0.34 | Very limited<br>Deep to water         | 1.00  |
| Henefer-----                | 30                        | Somewhat limited<br>Slope<br>Seepage                     | 0.18<br>0.04         | Not limited                                                                  |                      | Very limited<br>Deep to water         | 1.00  |
| 182:<br>Yeates Hollow-----  | 55                        | Somewhat limited<br>Slope<br>Depth to bedrock<br>Seepage | 0.97<br>0.33<br>0.04 | Somewhat limited<br>Hard to pack<br>Content of large<br>stones<br>Thin layer | 0.88<br>0.85<br>0.34 | Very limited<br>Deep to water         | 1.00  |
| Henefer-----                | 30                        | Somewhat limited<br>Slope<br>Seepage                     | 0.97<br>0.04         | Not limited                                                                  |                      | Very limited<br>Deep to water         | 1.00  |
| 183:<br>Water-----          | 100                       | Not rated                                                |                      | Not rated                                                                    |                      | Not rated                             |       |
| 184:<br>Dams-----           | 100                       | Not rated                                                |                      | Not rated                                                                    |                      | Not rated                             |       |



Table 15.--Engineering index properties

(Absence of an entry indicates that the data were not estimated.)

| Map symbol<br>and soil name | Depth | USDA texture                                     | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |        |        |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|--------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|--------|--------|-------|-----------------|--------------------------|
|                             |       |                                                  | Unified        | AASHTO   | >10       | 3-10   | 4                                    | 10     | 40     | 200   |                 |                          |
|                             |       |                                                  |                |          | inches    | inches |                                      |        |        |       |                 |                          |
|                             | In.   |                                                  |                |          | Pct.      | Pct.   |                                      |        |        |       | Pct.            |                          |
| 101:<br>Agassiz-----        | 0-6   | Very cobbly<br>loam                              | GC, SC         | A-2, A-6 | 5-15      | 25-50  | 60-80                                | 55-70  | 45-65  | 30-50 | 30-35           | 10-15                    |
|                             | 6-14  | Very cobbly<br>loam,<br>extremely<br>cobbly loam | GC, SC         | A-2, A-6 | 10-20     | 25-50  | 45-80                                | 40-75  | 35-65  | 25-50 | 30-35           | 10-15                    |
|                             | 14-24 | Bedrock                                          |                |          | ---       | ---    | ---                                  | ---    | ---    | ---   | ---             | ---                      |
| Rock outcrop----            | ---   | ---                                              | ---            | ---      | ---       | ---    | ---                                  | ---    | ---    | ---   | ---             | ---                      |
| 102:<br>Ant Flat-----       | 0-13  | Loam                                             | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 13-19 | Clay loam                                        | CL             | A-6      | 0         | 0      | 90-100                               | 85-100 | 75-90  | 60-80 | 35-40           | 15-20                    |
|                             | 19-30 | Clay                                             | CH             | A-7      | 0         | 0      | 95-100                               | 90-100 | 80-100 | 70-90 | 55-65           | 35-40                    |
|                             | 30-45 | Clay loam                                        | CL             | A-6      | 0         | 0      | 90-100                               | 85-100 | 75-95  | 60-80 | 35-40           | 15-20                    |
|                             | 45-60 | Clay loam                                        | CL             | A-6      | 0         | 0      | 90-100                               | 80-100 | 70-95  | 55-80 | 35-40           | 15-20                    |
| 103:<br>Ant Flat-----       | 0-13  | Loam                                             | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 13-19 | Clay loam                                        | CL             | A-6      | 0         | 0      | 90-100                               | 85-100 | 75-90  | 60-80 | 35-40           | 15-20                    |
|                             | 19-30 | Clay                                             | CH             | A-7      | 0         | 0      | 95-100                               | 90-100 | 80-100 | 70-90 | 55-65           | 35-40                    |
|                             | 30-45 | Clay loam                                        | CL             | A-6      | 0         | 0      | 90-100                               | 85-100 | 75-95  | 60-80 | 35-40           | 15-20                    |
|                             | 45-60 | Clay loam                                        | CL             | A-6      | 0         | 0      | 90-100                               | 80-100 | 70-95  | 55-80 | 35-40           | 15-20                    |
| 104:<br>Ant Flat-----       | 0-13  | Loam                                             | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 13-19 | Clay loam                                        | CL             | A-6      | 0         | 0      | 90-100                               | 85-100 | 75-90  | 60-80 | 35-40           | 15-20                    |
|                             | 19-30 | Clay                                             | CH             | A-7      | 0         | 0      | 95-100                               | 90-100 | 80-100 | 70-90 | 55-65           | 35-40                    |
|                             | 30-45 | Clay loam                                        | CL             | A-6      | 0         | 0      | 90-100                               | 85-100 | 75-95  | 60-80 | 35-40           | 15-20                    |
|                             | 45-60 | Clay loam                                        | CL             | A-6      | 0         | 0      | 90-100                               | 80-100 | 70-95  | 55-80 | 35-40           | 15-20                    |
| 105:<br>Ant Flat-----       | 0-13  | Loam                                             | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 13-19 | Clay loam                                        | CL             | A-6      | 0         | 0      | 90-100                               | 85-100 | 75-90  | 60-80 | 35-40           | 15-20                    |
|                             | 19-30 | Clay                                             | CH             | A-7      | 0         | 0      | 95-100                               | 90-100 | 80-100 | 70-90 | 55-65           | 35-40                    |
|                             | 30-45 | Clay loam                                        | CL             | A-6      | 0         | 0      | 90-100                               | 85-100 | 75-95  | 60-80 | 35-40           | 15-20                    |
|                             | 45-60 | Clay loam                                        | CL             | A-6      | 0         | 0      | 90-100                               | 80-100 | 70-95  | 55-80 | 35-40           | 15-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                                                  | Classification    |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|-----------------------------------------------------------------------------------------------|-------------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                                                               | Unified           | AASHTO   | >10       | 3-10   | 4                                    | 10     | 40    | 200   |                 |                          |
|                             |       |                                                                                               |                   |          | inches    | inches |                                      |        |       |       |                 |                          |
|                             | In.   |                                                                                               |                   |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 105:<br>Henefer-----        | 0-7   | Gravelly loam                                                                                 | CL, GC, SC        | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 7-12  | Gravelly loam                                                                                 | GC, SC            | A-6      | 0         | 0-10   | 60-80                                | 55-75  | 45-65 | 35-50 | 30-35           | 10-15                    |
|                             | 12-21 | Cobbly clay,<br>gravelly clay<br>loam, gravelly<br>silty clay<br>loam                         | CH, GC, SC        | A-7      | 0-5       | 0-30   | 60-95                                | 55-90  | 45-85 | 35-80 | 50-65           | 30-40                    |
|                             | 21-30 | Cobbly clay,<br>gravelly clay<br>loam, gravelly<br>silty clay<br>loam                         | CL, SC, CH        | A-2, A-7 | 0-5       | 0-30   | 60-95                                | 55-90  | 45-85 | 20-80 | 45-65           | 25-40                    |
|                             | 30-37 | Very gravelly<br>clay loam,<br>very cobbly<br>clay loam,<br>very cobbly<br>sandy clay<br>loam | CH, SC, GC,<br>CL | A-2, A-7 | 0-10      | 0-40   | 40-80                                | 35-75  | 30-65 | 20-55 | 45-55           | 25-35                    |
|                             | 37-43 | Very gravelly<br>clay loam,<br>very cobbly<br>clay loam,<br>very cobbly<br>sandy clay<br>loam | CH, SC, GC,<br>CL | A-2, A-7 | 0-10      | 0-40   | 40-80                                | 35-75  | 30-65 | 20-55 | 45-55           | 25-35                    |
|                             | 43-50 | Very cobbly<br>sandy clay<br>loam, very<br>cobbly clay<br>loam, very<br>gravelly clay<br>loam | CH, SC, GC,<br>CL | A-2, A-7 | 0-10      | 0-40   | 40-80                                | 35-75  | 30-65 | 20-55 | 45-55           | 25-35                    |
|                             | 50-60 | Very cobbly<br>sandy clay<br>loam, very<br>cobbly clay<br>loam, very<br>gravelly clay<br>loam | SC, GC, CL        | A-2      | 0-10      | 0-40   | 40-80                                | 35-75  | 30-65 | 20-55 | 35-40           | 15-20                    |
| Skutum-----                 | 0-5   | Loam                                                                                          | CL                | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 5-17  | Loam                                                                                          | CL                | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 17-32 | Gravelly clay,<br>gravelly clay<br>loam                                                       | CH, SC, GC        | A-7      | 0         | 0-5    | 60-80                                | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 32-44 | Gravelly clay,<br>gravelly clay<br>loam                                                       | CH, SC, GC        | A-7      | 0         | 0-5    | 60-80                                | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 44-48 | Gravelly clay,<br>gravelly clay<br>loam                                                       | CH, SC, GC        | A-7      | 0         | 0-5    | 60-80                                | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 48-56 | Gravelly sandy<br>loam                                                                        | SC-SM, GC-GM      | A-2      | 0         | 0-10   | 60-80                                | 55-75  | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 56-60 | Bedrock                                                                                       |                   |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                            | Classification |          | Fragments     |                | Percentage passing<br>sieve number-- |       |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|---------------------------------------------------------|----------------|----------|---------------|----------------|--------------------------------------|-------|-------|-------|-----------------|--------------------------|
|                             |       |                                                         | Unified        | AASHTO   | >10<br>inches | 3-10<br>inches | 4                                    | 10    | 40    | 200   |                 |                          |
|                             | In.   |                                                         |                |          | Pct.          | Pct.           |                                      |       |       |       | Pct.            |                          |
| 106:<br>Ayoub-----          | 0-6   | Cobbly loam                                             | SC, GC, CL     | A-6      | 0-10          | 15-30          | 75-95                                | 70-90 | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 6-12  | Gravelly clay<br>loam                                   | SC, GC, CL     | A-6      | 0-10          | 0-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 12-18 | Gravelly clay<br>loam                                   | SC, GC, CL     | A-6      | 0-10          | 0-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 18-23 | Gravelly clay<br>loam                                   | SC, GC, CL     | A-6      | 0-10          | 0-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 23-35 | Very cobbly<br>loam, very<br>gravelly loam              | SC, GC         | A-6, A-2 | 0-15          | 5-45           | 45-80                                | 40-75 | 35-65 | 25-50 | 30-35           | 10-15                    |
|                             | 35-45 | Bedrock                                                 |                |          | ---           | ---            | ---                                  | ---   | ---   | ---   | ---             | ---                      |
| 107:<br>Ayoub-----          | 0-6   | Cobbly loam                                             | SC, GC, CL     | A-6      | 0-10          | 15-30          | 75-95                                | 70-90 | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 6-12  | Gravelly clay<br>loam                                   | GC, CL, SC     | A-6      | 0-10          | 0-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 12-18 | Gravelly clay<br>loam                                   | SC, GC, CL     | A-6      | 0-10          | 0-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 18-23 | Gravelly clay<br>loam                                   | SC, GC, CL     | A-6      | 0-10          | 0-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 23-35 | Very cobbly<br>loam, very<br>gravelly loam              | SC, GC         | A-6, A-2 | 0-15          | 5-45           | 45-80                                | 40-75 | 35-65 | 25-50 | 30-35           | 10-15                    |
|                             | 35-45 | Bedrock                                                 |                |          | ---           | ---            | ---                                  | ---   | ---   | ---   | ---             | ---                      |
| Dunford-----                | 0-10  | Cobbly loam                                             | SC, GC, CL     | A-6      | 0-5           | 10-30          | 75-95                                | 70-90 | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 10-21 | Gravelly clay<br>loam                                   | CL, GC, SC     | A-6      | 0-5           | 5-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 21-36 | Gravelly clay<br>loam                                   | CL, GC, SC     | A-6      | 0-5           | 5-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 36-46 | Bedrock                                                 |                |          | ---           | ---            | ---                                  | ---   | ---   | ---   | ---             | ---                      |
| Melling-----                | 0-6   | Extremely stony<br>loam                                 | GC, SC         | A-2, A-6 | 0-10          | 35-60          | 45-65                                | 40-55 | 35-55 | 25-45 | 30-35           | 10-15                    |
|                             | 6-19  | Very cobbly<br>clay loam,<br>very gravelly<br>clay loam | GC             | A-2, A-6 | 0-10          | 10-45          | 55-75                                | 50-65 | 40-60 | 25-50 | 35-40           | 15-20                    |
|                             | 19-29 | Bedrock                                                 |                |          | ---           | ---            | ---                                  | ---   | ---   | ---   | ---             | ---                      |
| 108:<br>Ayoub-----          | 0-6   | Cobbly loam                                             | SC, GC, CL     | A-6      | 0-10          | 15-30          | 75-95                                | 70-90 | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 6-12  | Gravelly clay<br>loam                                   | SC, GC, CL     | A-6      | 0-10          | 0-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 12-18 | Gravelly clay<br>loam                                   | SC, GC, CL     | A-6      | 0-10          | 0-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 18-23 | Gravelly clay<br>loam                                   | SC, GC, CL     | A-6      | 0-10          | 0-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 23-35 | Very cobbly<br>loam, very<br>gravelly loam              | SC, GC         | A-6, A-2 | 0-15          | 5-45           | 45-80                                | 40-75 | 35-65 | 25-50 | 30-35           | 10-15                    |
|                             | 35-45 | Bedrock                                                 |                |          | ---           | ---            | ---                                  | ---   | ---   | ---   | ---             | ---                      |
| Dunford-----                | 0-10  | Cobbly loam                                             | SC, GC, CL     | A-6      | 0-5           | 10-30          | 75-95                                | 70-90 | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 10-21 | Gravelly clay<br>loam                                   | CL, GC, SC     | A-6      | 0-5           | 5-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 21-36 | Gravelly clay<br>loam                                   | CL, GC, SC     | A-6      | 0-5           | 5-15           | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 36-46 | Bedrock                                                 |                |          | ---           | ---            | ---                                  | ---   | ---   | ---   | ---             | ---                      |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                            | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|---------------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                         | Unified        | AASHTO   | >10       | 3-10   | 4                                    | 10     | 40    | 200   |                 |                          |
|                             |       |                                                         |                |          | inches    | inches |                                      |        |       |       |                 |                          |
|                             | In.   |                                                         |                |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 108:<br>Melling-----        | 0-6   | Extremely stony<br>loam                                 | GC, SC         | A-2, A-6 | 0-10      | 35-60  | 45-65                                | 40-55  | 35-55 | 25-45 | 30-35           | 10-15                    |
|                             | 6-19  | Very cobbly<br>clay loam,<br>very gravelly<br>clay loam | GC             | A-2, A-6 | 0-10      | 10-45  | 55-75                                | 50-65  | 40-60 | 25-50 | 35-40           | 15-20                    |
|                             | 19-29 | Bedrock                                                 |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 109:<br>Cluff-----          | 0-4   | Loam                                                    | CL             | A-6      | 0         | 0-6    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 4-9   | Gravelly loam                                           | GC, SC         | A-6      | 0         | 0-10   | 65-80                                | 55-75  | 45-65 | 35-50 | 30-35           | 10-15                    |
|                             | 9-16  | Very gravelly<br>loam                                   | GC-GM, GC      | A-2, A-6 | 0-5       | 0-20   | 45-65                                | 40-60  | 35-55 | 25-45 | 30-35           | 10-15                    |
|                             | 16-20 | Very cobbly<br>clay loam                                | GC, SC, CH     | A-7      | 0-10      | 20-45  | 60-80                                | 55-75  | 45-65 | 35-55 | 50-55           | 30-35                    |
|                             | 20-33 | Very cobbly<br>clay                                     | CH, GC, SC     | A-7      | 0-10      | 20-45  | 60-80                                | 55-75  | 45-65 | 45-65 | 50-55           | 30-35                    |
|                             | 33-54 | Very cobbly<br>clay                                     | CH, GC, SC     | A-7      | 0-10      | 20-45  | 60-80                                | 55-75  | 50-70 | 45-65 | 55-65           | 35-40                    |
|                             | 54-60 | Bedrock                                                 |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 110:<br>Cluff-----          | 0-4   | Loam                                                    | CL             | A-6      | 0         | 0-6    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 4-9   | Gravelly loam                                           | GC, SC         | A-6      | 0         | 0-10   | 65-80                                | 55-75  | 45-65 | 35-50 | 30-35           | 10-15                    |
|                             | 9-16  | Very gravelly<br>loam                                   | GC-GM, GC      | A-2, A-6 | 0-5       | 0-20   | 45-65                                | 40-60  | 35-55 | 25-45 | 30-35           | 10-15                    |
|                             | 16-20 | Very cobbly<br>clay loam                                | GC, SC, CH     | A-7      | 0-10      | 20-45  | 60-80                                | 55-75  | 45-65 | 35-55 | 50-55           | 30-35                    |
|                             | 20-33 | Very cobbly<br>clay                                     | CH, GC, SC     | A-7      | 0-10      | 20-45  | 60-80                                | 55-75  | 45-65 | 45-65 | 50-55           | 30-35                    |
|                             | 33-54 | Very cobbly<br>clay                                     | CH, GC, SC     | A-7      | 0-10      | 20-45  | 60-80                                | 55-75  | 50-70 | 45-65 | 55-65           | 35-40                    |
|                             | 54-60 | Bedrock                                                 |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 111:<br>Crandall-----       | 0-5   | Gravelly loam                                           | CL, GC, SC     | A-6      | 0-5       | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 5-14  | Gravelly loam                                           | CL, GC, SC     | A-6      | 0-5       | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 14-45 | Very cobbly<br>clay loam,<br>very gravelly<br>clay loam | GC, CL, SC     | A-2, A-6 | 0-10      | 10-40  | 40-80                                | 35-75  | 30-65 | 20-55 | 35-40           | 15-20                    |
|                             | 45-55 | Very cobbly<br>loam, very<br>gravelly loam              | SC, GC         | A-2, A-6 | 0-10      | 10-40  | 40-80                                | 35-75  | 30-65 | 20-50 | 30-35           | 10-15                    |
|                             | 55-60 | Bedrock                                                 |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 112:<br>Crandall-----       | 0-5   | Gravelly loam                                           | CL, GC, SC     | A-6      | 0-5       | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 5-14  | Gravelly loam                                           | CL, GC, SC     | A-6      | 0-5       | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 14-45 | Very cobbly<br>clay loam,<br>very gravelly<br>clay loam | GC, CL, SC     | A-2, A-6 | 0-10      | 10-40  | 40-80                                | 35-75  | 30-65 | 20-55 | 35-40           | 15-20                    |
|                             | 45-55 | Very cobbly<br>loam, very<br>gravelly loam              | SC, GC         | A-2, A-6 | 0-10      | 10-40  | 40-80                                | 35-75  | 30-65 | 20-50 | 30-35           | 10-15                    |
|                             | 55-60 | Bedrock                                                 |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                                                         | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |       |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|------------------------------------------------------------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|-------|-------|-------|-----------------|--------------------------|
|                             |       |                                                                                                      | Unified        | AASHTO   | >10       | 3-10   |                                      |       |       |       |                 |                          |
|                             |       |                                                                                                      |                |          | inches    | inches | 4                                    | 10    | 40    | 200   |                 |                          |
|                             | In.   |                                                                                                      |                |          | Pct.      | Pct.   |                                      |       |       |       | Pct.            |                          |
| 112:<br>Lucky Star-----     | 0-6   | Gravelly loam                                                                                        | SC, GC, CL     | A-6      | 0         | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 6-12  | Gravelly loam                                                                                        | SC, CL, GC     | A-6      | 0-15      | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-25 | Very gravelly<br>fine sandy<br>loam, very<br>cobbly sandy<br>loam, very<br>cobbly fine<br>sandy loam | GC-GM, SC-SM   | A-2      | 0-15      | 10-45  | 40-80                                | 35-75 | 25-50 | 15-30 | 20-30           | 5-10                     |
|                             | 25-47 | Very cobbly<br>sandy loam,<br>very cobbly<br>fine sandy<br>loam                                      | GC-GM, SC-SM   | A-2      | 0-15      | 10-45  | 40-80                                | 35-75 | 25-50 | 15-30 | 20-30           | 5-10                     |
|                             | 47-62 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly sandy<br>clay loam                               | SC, GC         | A-6, A-2 | 0-15      | 10-45  | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 62-80 | Very gravelly<br>sandy clay<br>loam, very<br>cobbly sandy<br>clay loam                               | GC, SC         | A-6, A-2 | 0-15      | 10-45  | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
| 113:<br>Crandall-----       | 0-5   | Gravelly loam                                                                                        | CL, GC, SC     | A-6      | 0-5       | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 5-14  | Gravelly loam                                                                                        | CL, GC, SC     | A-6      | 0-5       | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 14-45 | Very cobbly<br>clay loam,<br>very gravelly<br>clay loam                                              | GC, CL, SC     | A-2, A-6 | 0-10      | 10-40  | 40-80                                | 35-75 | 30-65 | 20-55 | 35-40           | 15-20                    |
|                             | 45-55 | Very cobbly<br>loam, very<br>gravelly loam                                                           | SC, GC         | A-2, A-6 | 0-10      | 10-40  | 40-80                                | 35-75 | 30-65 | 20-50 | 30-35           | 10-15                    |
|                             | 55-60 | Bedrock                                                                                              |                |          | ---       | ---    | ---                                  | ---   | ---   | ---   | ---             | ---                      |
| Lucky Star-----             | 0-6   | Gravelly loam                                                                                        | SC, GC, CL     | A-6      | 0         | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 6-12  | Gravelly loam                                                                                        | SC, CL, GC     | A-6      | 0-15      | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-25 | Very gravelly<br>fine sandy<br>loam, very<br>cobbly sandy<br>loam, very<br>cobbly fine<br>sandy loam | GC-GM, SC-SM   | A-2      | 0-15      | 10-45  | 40-80                                | 35-75 | 25-50 | 15-30 | 20-30           | 5-10                     |
|                             | 25-47 | Very cobbly<br>sandy loam,<br>very cobbly<br>fine sandy<br>loam                                      | GC-GM, SC-SM   | A-2      | 0-15      | 10-45  | 40-80                                | 35-75 | 25-50 | 15-30 | 20-30           | 5-10                     |
|                             | 47-62 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly sandy<br>clay loam                               | SC, GC         | A-6, A-2 | 0-15      | 10-45  | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 62-80 | Very gravelly<br>sandy clay<br>loam, very<br>cobbly sandy<br>clay loam                               | SC, GC         | A-6, A-2 | 0-15      | 10-45  | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                   | Classification |          | Fragments     |                | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|------------------------------------------------|----------------|----------|---------------|----------------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                | Unified        | AASHTO   | >10<br>inches | 3-10<br>inches | 4                                    | 10     | 40    | 200   |                 |                          |
|                             | In.   |                                                |                |          | Pct.          | Pct.           |                                      |        |       |       | Pct.            |                          |
| 113:<br>Starley Family--    | 0-6   | Very cobbly loam                               | SC, GC         | A-6, A-2 | 0-15          | 20-45          | 60-80                                | 55-75  | 45-65 | 30-50 | 30-35           | 10-15                    |
|                             | 6-15  | Extremely cobbly loam                          | SC, GC         | A-6, A-2 | 0-20          | 30-55          | 45-65                                | 40-60  | 35-55 | 25-45 | 30-35           | 10-15                    |
|                             | 15-19 | Extremely cobbly loam                          | SC, GC         | A-2, A-6 | 0-20          | 30-55          | 45-65                                | 40-60  | 35-55 | 25-45 | 30-35           | 10-15                    |
|                             | 19-29 | Bedrock                                        |                |          | ---           | ---            | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 114:<br>Crandall-----       | 0-5   | Gravelly loam                                  | CL, GC, SC     | A-6      | 0-5           | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 5-14  | Gravelly loam                                  | CL, GC, SC     | A-6      | 0-5           | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 14-45 | Very cobbly clay loam, very gravelly clay loam | GC, CL, SC     | A-2, A-6 | 0-10          | 10-40          | 40-80                                | 35-75  | 30-65 | 20-55 | 35-40           | 15-20                    |
|                             | 45-55 | Very cobbly loam, very gravelly loam           | SC, GC         | A-2, A-6 | 0-10          | 10-40          | 40-80                                | 35-75  | 30-65 | 20-50 | 30-35           | 10-15                    |
|                             | 55-60 | Bedrock                                        |                |          | ---           | ---            | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Starley Family--            | 0-6   | Very cobbly loam                               | SC, GC         | A-6, A-2 | 0-15          | 20-45          | 60-80                                | 55-75  | 45-65 | 30-50 | 30-35           | 10-15                    |
|                             | 6-15  | Extremely cobbly loam                          | SC, GC         | A-6, A-2 | 0-20          | 30-55          | 45-65                                | 40-60  | 35-55 | 25-45 | 30-35           | 10-15                    |
|                             | 15-19 | Extremely cobbly loam                          | SC, GC         | A-6, A-2 | 0-20          | 30-55          | 45-65                                | 40-60  | 35-55 | 25-45 | 30-35           | 10-15                    |
|                             | 19-29 | Bedrock                                        |                |          | ---           | ---            | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Rock outcrop----            | ---   | ---                                            | ---            | ---      | ---           | ---            | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 115:<br>Dastrup-----        | 0-12  | Loam                                           | CL             | A-6      | 0             | 0-5            | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 12-16 | Clay loam, loam, gravelly loam                 | CL, GC, SC     | A-6      | 0             | 0-10           | 60-100                               | 55-100 | 45-95 | 35-80 | 30-40           | 10-20                    |
|                             | 16-36 | Loam, clay loam, gravelly loam                 | CL, GC, SC     | A-6      | 0             | 0-10           | 60-100                               | 55-100 | 45-95 | 35-80 | 30-40           | 10-20                    |
|                             | 36-48 | Loam, clay loam, gravelly loam                 | CL, GC, SC     | A-6      | 0             | 0-10           | 60-100                               | 55-100 | 45-95 | 35-80 | 30-40           | 10-20                    |
|                             | 48-60 | Loam, clay loam, gravelly loam                 | CL, GC, SC     | A-6      | 0             | 0-10           | 60-100                               | 55-100 | 45-95 | 35-80 | 30-40           | 10-20                    |
| 116:<br>Dastrup-----        | 0-12  | Loam                                           | CL             | A-6      | 0             | 0-5            | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 12-16 | Clay loam, loam, gravelly loam                 | CL, GC, SC     | A-6      | 0             | 0-10           | 60-100                               | 55-100 | 45-95 | 35-80 | 30-40           | 10-20                    |
|                             | 16-36 | Loam, clay loam, gravelly loam                 | CL, GC, SC     | A-6      | 0             | 0-10           | 60-100                               | 55-100 | 45-95 | 35-80 | 30-40           | 10-20                    |
|                             | 36-48 | Loam, clay loam, gravelly loam                 | CL, GC, SC     | A-6      | 0             | 0-10           | 60-100                               | 55-100 | 45-95 | 35-80 | 30-40           | 10-20                    |
|                             | 48-60 | Loam, clay loam, gravelly loam                 | CL, GC, SC     | A-6      | 0             | 0-10           | 60-100                               | 55-100 | 45-95 | 35-80 | 30-40           | 10-20                    |

Table 15.--Engineering index properties--continued

[illegible]



Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                                                     | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |       |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|--------------------------------------------------------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|-------|-------|-------|-----------------|--------------------------|
|                             |       |                                                                                                  | Unified        | AASHTO   | >10       | 3-10   | 4                                    | 10    | 40    | 200   |                 |                          |
|                             |       |                                                                                                  |                |          | inches    | inches |                                      |       |       |       |                 |                          |
|                             | In.   |                                                                                                  |                |          | Pct.      | Pct.   |                                      |       |       |       | Pct.            |                          |
| 119:<br>Duchesne-----       | 0-4   | Very cobbly<br>sandy loam                                                                        | SC-SM, GC-GM   | A-2      | 0-10      | 20-49  | 60-80                                | 55-75 | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 4-11  | Gravelly fine<br>sandy loam,<br>very gravelly<br>sandy loam,<br>very cobbly<br>sandy loam        | SC-SM, GC-GM   | A-4, A-2 | 0-10      | 5-35   | 40-80                                | 35-75 | 15-60 | 10-40 | 20-30           | 5-10                     |
|                             | 11-18 | Gravelly fine<br>sandy loam,<br>very gravelly<br>sandy loam,<br>very cobbly<br>sandy loam        | SC-SM, GC-GM   | A-4, A-2 | 0-10      | 5-35   | 40-80                                | 35-75 | 15-60 | 10-40 | 20-30           | 5-10                     |
|                             | 18-30 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | SC, GC         | A-6, A-2 | 0-10      | 25-45  | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 30-42 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | SC, GC         | A-6, A-2 | 0-10      | 25-45  | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 42-60 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | GC, SC         | A-6, A-2 | 0-10      | 25-45  | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth      | USDA texture                                                                                     | Classification |          | Fragments     |                | Percentage passing<br>sieve number-- |       |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|------------|--------------------------------------------------------------------------------------------------|----------------|----------|---------------|----------------|--------------------------------------|-------|-------|-------|-----------------|--------------------------|
|                             |            |                                                                                                  | Unified        | AASHTO   | >10<br>inches | 3-10<br>inches | 4                                    | 10    | 40    | 200   |                 |                          |
| 120:<br>Duchesne-----       | <u>In.</u> |                                                                                                  |                |          | <u>Pct.</u>   | <u>Pct.</u>    |                                      |       |       |       | <u>Pct.</u>     |                          |
|                             | 0-4        | Very cobbly<br>sandy loam                                                                        | SC-SM, GC-GM   | A-2      | 0-10          | 20-49          | 60-80                                | 55-75 | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 4-11       | Gravelly fine<br>sandy loam,<br>very gravelly<br>sandy loam,<br>very cobbly<br>sandy loam        | SC-SM, GC-GM   | A-4, A-2 | 0-10          | 5-35           | 40-80                                | 35-75 | 15-60 | 10-40 | 20-30           | 5-10                     |
|                             | 11-18      | Gravelly fine<br>sandy loam,<br>very gravelly<br>sandy loam,<br>very cobbly<br>sandy loam        | SC-SM, GC-GM   | A-4, A-2 | 0-10          | 5-35           | 40-80                                | 35-75 | 15-60 | 10-40 | 20-30           | 5-10                     |
|                             | 18-30      | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | SC, GC         | A-6, A-2 | 0-10          | 25-45          | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 30-42      | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | SC, GC         | A-6, A-2 | 0-10          | 25-45          | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 42-60      | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | GC, SC         | A-6, A-2 | 0-10          | 25-45          | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth      | USDA texture                                                                                     | Classification |          | Fragments     |                | Percentage passing<br>sieve number-- |       |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|------------|--------------------------------------------------------------------------------------------------|----------------|----------|---------------|----------------|--------------------------------------|-------|-------|-------|-----------------|--------------------------|
|                             |            |                                                                                                  | Unified        | AASHTO   | >10<br>inches | 3-10<br>inches | 4                                    | 10    | 40    | 200   |                 |                          |
|                             |            |                                                                                                  |                |          | Pct.          | Pct.           |                                      |       |       |       |                 |                          |
| 121:<br>Duchesne-----       | <u>In.</u> |                                                                                                  |                |          |               |                |                                      |       |       |       | <u>Pct.</u>     |                          |
|                             | 0-4        | Very cobbly<br>sandy loam                                                                        | SC-SM, GC-GM   | A-2      | 0-10          | 20-49          | 60-80                                | 55-75 | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 4-11       | Gravelly fine<br>sandy loam,<br>very gravelly<br>sandy loam,<br>very cobbly<br>sandy loam        | SC-SM, GC-GM   | A-4, A-2 | 0-10          | 5-35           | 40-80                                | 35-75 | 15-60 | 10-40 | 20-30           | 5-10                     |
|                             | 11-18      | Gravelly fine<br>sandy loam,<br>very gravelly<br>sandy loam,<br>very cobbly<br>sandy loam        | SC-SM, GC-GM   | A-4, A-2 | 0-10          | 5-35           | 40-80                                | 35-75 | 15-60 | 10-40 | 20-30           | 5-10                     |
|                             | 18-30      | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | SC, GC         | A-6, A-2 | 0-10          | 25-45          | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 30-42      | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | SC, GC         | A-6, A-2 | 0-10          | 25-45          | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 42-60      | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | GC, SC         | A-6, A-2 | 0-10          | 25-45          | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                                                     | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|--------------------------------------------------------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                                                                  | Unified        | AASHTO   | >10       | 3-10   |                                      |        |       |       |                 |                          |
|                             |       |                                                                                                  |                |          | inches    | inches | 4                                    | 10     | 40    | 200   |                 |                          |
|                             | In.   |                                                                                                  |                |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 122:<br>Duchesne-----       | 0-4   | Very cobbly<br>sandy loam                                                                        | SC-SM, GC-GM   | A-2      | 0-10      | 20-49  | 60-80                                | 55-75  | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 4-11  | Gravelly fine<br>sandy loam,<br>very gravelly<br>sandy loam,<br>very cobbly<br>sandy loam        | SC-SM, GC-GM   | A-4, A-2 | 0-10      | 5-35   | 40-80                                | 35-75  | 15-60 | 10-40 | 20-30           | 5-10                     |
|                             | 11-18 | Gravelly fine<br>sandy loam,<br>very gravelly<br>sandy loam,<br>very cobbly<br>sandy loam        | SC-SM, GC-GM   | A-4, A-2 | 0-10      | 5-35   | 40-80                                | 35-75  | 15-60 | 10-40 | 20-30           | 5-10                     |
|                             | 18-30 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | SC, GC         | A-6, A-2 | 0-10      | 25-45  | 40-80                                | 35-75  | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 30-42 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | SC, GC         | A-6, A-2 | 0-10      | 25-45  | 40-80                                | 35-75  | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 42-60 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | GC, SC         | A-2, A-6 | 0-10      | 25-45  | 40-80                                | 35-75  | 25-65 | 15-40 | 30-40           | 10-20                    |
| Haydenfork-----             | 0-3   | Slightly<br>decomposed<br>plant material                                                         |                |          | 0         | 0      | ---                                  | ---    | ---   | ---   | ---             | ---                      |
|                             | 3-9   | Clay loam                                                                                        | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 9-17  | Clay loam                                                                                        | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-21 | Clay loam                                                                                        | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-95 | 60-80 | 35-40           | 15-20                    |
|                             | 21-25 | Clay loam                                                                                        | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-95 | 60-80 | 35-40           | 15-20                    |
|                             | 25-36 | Loam, sandy<br>clay loam                                                                         | SC, CL         | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 35-75 | 30-35           | 10-15                    |
|                             | 36-55 | Loam, sandy<br>clay loam                                                                         | SC, CL         | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 35-75 | 30-35           | 10-15                    |
|                             | 55-63 | Gravelly loam,<br>gravelly sandy<br>clay loam                                                    | CL, SC, GC     | A-6, A-2 | 0         | 0-10   | 60-80                                | 55-75  | 45-65 | 20-55 | 30-35           | 10-15                    |
| 123:<br>Dumps, Mines----    | ---   | ---                                                                                              | ---            | ---      | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 124:<br>Dunford-----        | 0-10  | Cobbly loam                                                                                      | SC, GC, CL     | A-6      | 0-5       | 10-30  | 75-95                                | 70-90  | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 10-21 | Gravelly clay<br>loam                                                                            | CL, GC, SC     | A-6      | 0-5       | 5-15   | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 21-36 | Gravelly clay<br>loam                                                                            | CL, GC, SC     | A-6      | 0-5       | 5-15   | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 36-46 | Bedrock                                                                                          |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                   | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                | Unified        | AASHTO   | >10       | 3-10   | 4                                    | 10     | 40    | 200   |                 |                          |
|                             |       |                                                |                |          | inches    | inches |                                      |        |       |       |                 |                          |
|                             | In.   |                                                |                |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 124:<br>Ayoub-----          | 0-6   | Cobbly loam                                    | SC, GC, CL     | A-6      | 0-10      | 15-30  | 75-95                                | 70-90  | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 6-12  | Gravelly clay loam                             | SC, GC, CL     | A-6      | 0-10      | 0-15   | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 12-18 | Gravelly clay loam                             | SC, GC, CL     | A-6      | 0-10      | 0-15   | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 18-23 | Gravelly clay loam                             | SC, GC, CL     | A-6      | 0-10      | 0-15   | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 23-35 | Very cobbly loam, very gravelly loam           | SC, GC         | A-6, A-2 | 0-15      | 5-45   | 45-80                                | 40-75  | 35-65 | 25-50 | 30-35           | 10-15                    |
|                             | 35-45 | Bedrock                                        |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Melling-----                | 0-6   | Extremely stony loam                           | GC, SC         | A-2, A-6 | 0-10      | 35-60  | 45-65                                | 40-55  | 35-55 | 25-45 | 30-35           | 10-15                    |
|                             | 6-19  | Very cobbly clay loam, very gravelly clay loam | GC             | A-2, A-6 | 0-10      | 10-45  | 55-75                                | 50-65  | 40-60 | 25-50 | 35-40           | 15-20                    |
|                             | 19-29 | Bedrock                                        |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 125:<br>Dunford-----        | 0-10  | Cobbly loam                                    | SC, GC, CL     | A-6      | 0-5       | 10-30  | 75-95                                | 70-90  | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 10-21 | Gravelly clay loam                             | CL, GC, SC     | A-6      | 0-5       | 5-15   | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 21-36 | Gravelly clay loam                             | CL, GC, SC     | A-6      | 0-5       | 5-15   | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 36-46 | Bedrock                                        |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Ayoub-----                  | 0-6   | Cobbly loam                                    | SC, GC, CL     | A-6      | 0-10      | 15-30  | 75-95                                | 70-90  | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 6-12  | Gravelly clay loam                             | SC, GC, CL     | A-6      | 0-10      | 0-15   | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 12-18 | Gravelly clay loam                             | SC, GC, CL     | A-6      | 0-10      | 0-15   | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 18-23 | Gravelly clay loam                             | SC, GC, CL     | A-6      | 0-10      | 0-15   | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 23-35 | Very cobbly loam, very gravelly loam           | SC, GC         | A-6, A-2 | 0-15      | 5-45   | 45-80                                | 40-75  | 35-65 | 25-50 | 30-35           | 10-15                    |
|                             | 35-45 | Bedrock                                        |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Melling-----                | 0-6   | Extremely stony loam                           | GC, SC         | A-2, A-6 | 0-10      | 35-60  | 45-65                                | 40-55  | 35-55 | 25-45 | 30-35           | 10-15                    |
|                             | 6-19  | Very cobbly clay loam, very gravelly clay loam | GC             | A-2, A-6 | 0-10      | 10-45  | 55-75                                | 50-65  | 40-60 | 25-50 | 35-40           | 15-20                    |
|                             | 19-29 | Bedrock                                        |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 126:<br>Echocreek-----      | 0-7   | Loam                                           | CL             | A-4      | 0         | 0      | 85-100                               | 80-100 | 70-90 | 55-75 | 20-30           | 5-10                     |
|                             | 7-18  | Loam                                           | CL             | A-4      | 0         | 0      | 85-100                               | 80-100 | 70-90 | 55-75 | 20-30           | 5-10                     |
|                             | 18-26 | Loam                                           | CL             | A-4      | 0         | 0      | 85-100                               | 80-100 | 70-90 | 55-75 | 20-30           | 5-10                     |
|                             | 26-38 | Loam                                           | CL             | A-4      | 0         | 0      | 85-100                               | 80-100 | 70-90 | 55-75 | 20-30           | 5-10                     |
|                             | 38-45 | Loam                                           | CL             | A-4      | 0         | 0      | 85-100                               | 80-100 | 70-90 | 55-75 | 20-30           | 5-10                     |
|                             | 45-60 | Loam                                           | CL             | A-4      | 0         | 0      | 85-100                               | 80-100 | 70-90 | 55-75 | 20-30           | 5-10                     |
| 127:<br>Echocreek-----      | 0-7   | Loam                                           | CL             | A-4      | 0         | 0      | 85-100                               | 80-100 | 70-90 | 55-75 | 20-30           | 5-10                     |
|                             | 7-18  | Loam                                           | CL             | A-4      | 0         | 0      | 85-100                               | 80-100 | 70-90 | 55-75 | 20-30           | 5-10                     |
|                             | 18-26 | Loam                                           | CL             | A-4      | 0         | 0      | 85-100                               | 80-100 | 70-90 | 55-75 | 20-30           | 5-10                     |
|                             | 26-38 | Loam                                           | CL             | A-4      | 0         | 0      | 85-100                               | 80-100 | 70-90 | 55-75 | 20-30           | 5-10                     |
|                             | 38-45 | Loam                                           | CL             | A-4      | 0         | 0      | 85-100                               | 80-100 | 70-90 | 55-75 | 20-30           | 5-10                     |
|                             | 45-60 | Loam                                           | CL             | A-4      | 0         | 0      | 85-100                               | 80-100 | 70-90 | 55-75 | 20-30           | 5-10                     |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                                               | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|--------------------------------------------------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                                                            | Unified        | AASHTO   | >10       | 3-10   |                                      |        |       |       |                 |                          |
|                             |       |                                                                                            |                |          | inches    | inches | 4                                    | 10     | 40    | 200   |                 |                          |
|                             | In.   |                                                                                            |                |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 127:<br>Kovich-----         | 0-9   | Loam                                                                                       | CL             | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-80 | 30-35           | 10-15                    |
|                             | 9-22  | Loam, clay loam                                                                            | CL             | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-95 | 55-80 | 30-40           | 10-20                    |
|                             | 22-29 | Clay loam, loam                                                                            | CL             | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-95 | 55-80 | 30-40           | 10-20                    |
|                             | 29-44 | Fine sandy<br>loam, very<br>gravelly sandy<br>clay loam                                    | GC, SC, SC-SM  | A-2, A-4 | 0         | 0-20   | 40-100                               | 35-100 | 25-80 | 15-50 | 20-35           | 5-15                     |
|                             | 44-60 | Very gravelly<br>loamy fine<br>sand, very<br>gravelly sand,<br>very gravelly<br>loamy sand | SM, GM         | A-1      | 0-10      | 0-20   | 40-60                                | 35-55  | 15-35 | 0-15  | ---             | ---                      |
| 128:<br>Fewkes-----         | 0-12  | Gravelly loam                                                                              | CL, SC, GC     | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-17 | Clay loam                                                                                  | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-22 | Clay loam,<br>gravelly clay<br>loam                                                        | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 22-28 | Clay loam,<br>gravelly clay<br>loam                                                        | CL, GC         | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 28-40 | Clay loam,<br>gravelly clay<br>loam                                                        | SC, GC, CL     | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 40-50 | Clay loam,<br>gravelly clay<br>loam, gravelly<br>loam, loam                                | CL, GC, SC     | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
|                             | 50-60 | Gravelly clay<br>loam, clay<br>loam, gravelly<br>loam, loam                                | CL, GC, SC     | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
| 129:<br>Fewkes-----         | 0-12  | Gravelly loam                                                                              | CL, SC, GC     | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-17 | Clay loam                                                                                  | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-22 | Clay loam,<br>gravelly clay<br>loam                                                        | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 22-28 | Clay loam,<br>gravelly clay<br>loam                                                        | CL, GC         | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 28-40 | Clay loam,<br>gravelly clay<br>loam                                                        | SC, GC, CL     | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 40-50 | Clay loam,<br>gravelly clay<br>loam, gravelly<br>loam, loam                                | CL, GC, SC     | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
|                             | 50-60 | Gravelly clay<br>loam, clay<br>loam, gravelly<br>loam, loam                                | CL, GC, SC     | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth      | USDA texture                                                | Classification         |          | Fragments   |             | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|------------|-------------------------------------------------------------|------------------------|----------|-------------|-------------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |            |                                                             | Unified                | AASHTO   | >10         | 3-10        |                                      |        |       |       |                 |                          |
|                             |            |                                                             |                        |          | inches      | inches      | 4                                    | 10     | 40    | 200   |                 |                          |
|                             | <u>In.</u> |                                                             |                        |          | <u>Pct.</u> | <u>Pct.</u> |                                      |        |       |       | <u>Pct.</u>     |                          |
| 130:<br>Fewkes-----         | 0-12       | Gravelly loam                                               | CL, SC, GC             | A-6      | 0           | 0-5         | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-17      | Clay loam                                                   | CL                     | A-6      | 0           | 0           | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-22      | Clay loam,<br>gravelly clay<br>loam                         | CL                     | A-6      | 0           | 0           | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 22-28      | Clay loam,<br>gravelly clay<br>loam                         | CL, GC                 | A-6      | 0           | 0-10        | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 28-40      | Clay loam,<br>gravelly clay<br>loam                         | SC, GC, CL             | A-6      | 0           | 0-10        | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 40-50      | Clay loam,<br>gravelly clay<br>loam, gravelly<br>loam, loam | CL, GC, SC             | A-6      | 0           | 0-15        | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
|                             | 50-60      | Gravelly clay<br>loam, clay<br>loam, gravelly<br>loam, loam | CL, GC, SC             | A-6      | 0           | 0-15        | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
| 131:<br>Fewkes-----         | 0-12       | Gravelly loam                                               | CL, SC, GC             | A-6      | 0           | 0-5         | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-17      | Clay loam                                                   | CL                     | A-6      | 0           | 0           | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-22      | Clay loam,<br>gravelly clay<br>loam                         | CL                     | A-6      | 0           | 0           | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 22-28      | Clay loam,<br>gravelly clay<br>loam                         | CL, GC                 | A-6      | 0           | 0-10        | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 28-40      | Clay loam,<br>gravelly clay<br>loam                         | SC, GC, CL             | A-6      | 0           | 0-10        | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 40-50      | Clay loam,<br>gravelly clay<br>loam, gravelly<br>loam, loam | CL, GC, SC             | A-6      | 0           | 0-15        | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
|                             | 50-60      | Gravelly clay<br>loam, clay<br>loam, gravelly<br>loam, loam | CL, GC, SC             | A-6      | 0           | 0-15        | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
| Heiners-----                | 0-3        | Gravelly loam                                               | CL-ML, GC-GM,<br>SC-SM | A-4      | 0           | 0-10        | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 3-8        | Gravelly loam                                               | GC-GM, SC-SM           | A-4      | 0           | 0-40        | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 8-12       | Very gravelly<br>loam, very<br>cobbly loam                  | GC-GM, SC-SM           | A-2, A-4 | 0-15        | 5-45        | 40-80                                | 35-75  | 30-65 | 20-50 | 20-30           | 5-10                     |
|                             | 12-19      | Very gravelly<br>loam, very<br>cobbly loam                  | GC-GM, SC-SM           | A-2, A-4 | 0-15        | 5-45        | 40-80                                | 35-75  | 30-65 | 20-50 | 20-30           | 5-10                     |
|                             | 19-29      | Bedrock                                                     |                        |          | ---         | ---         | ---                                  | ---    | ---   | ---   | ---             | ---                      |



Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                | Classification |        | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|-------------------------------------------------------------|----------------|--------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                             | Unified        | AASHTO | >10       | 3-10   | 4                                    | 10     | 40    | 200   |                 |                          |
|                             |       |                                                             |                |        | inches    | inches |                                      |        |       |       |                 |                          |
|                             | In.   |                                                             |                |        | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 132:<br>Fewkes-----         | 0-12  | Gravelly loam                                               | CL, SC, GC     | A-6    | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-17 | Clay loam                                                   | CL             | A-6    | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-22 | Clay loam,<br>gravelly clay<br>loam                         | CL             | A-6    | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 22-28 | Clay loam,<br>gravelly clay<br>loam                         | CL, GC         | A-6    | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 28-40 | Clay loam,<br>gravelly clay<br>loam                         | SC, GC, CL     | A-6    | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 40-50 | Clay loam,<br>gravelly clay<br>loam, gravelly<br>loam, loam | CL, GC, SC     | A-6    | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
|                             | 50-60 | Gravelly clay<br>loam, clay<br>loam, gravelly<br>loam, loam | CL, GC, SC     | A-6    | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
| Hades-----                  | 0-3   | Loam                                                        | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 3-18  | Loam                                                        | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 18-33 | Clay loam                                                   | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 33-44 | Clay loam                                                   | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 44-60 | Clay loam,<br>gravelly clay<br>loam                         | CL, GC, SC     | A-6    | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
| 133:<br>Fewkes-----         | 0-12  | Gravelly loam                                               | CL, SC, GC     | A-6    | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-17 | Clay loam                                                   | CL             | A-6    | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-22 | Clay loam,<br>gravelly clay<br>loam                         | CL             | A-6    | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 22-28 | Clay loam,<br>gravelly clay<br>loam                         | CL, GC         | A-6    | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 28-40 | Clay loam,<br>gravelly clay<br>loam                         | SC, GC, CL     | A-6    | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 40-50 | Clay loam,<br>gravelly clay<br>loam, gravelly<br>loam, loam | CL, GC, SC     | A-6    | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
|                             | 50-60 | Gravelly clay<br>loam, clay<br>loam, gravelly<br>loam, loam | CL, GC, SC     | A-6    | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
| Hades-----                  | 0-3   | Loam                                                        | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 3-18  | Loam                                                        | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 18-33 | Clay loam                                                   | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 33-44 | Clay loam                                                   | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 44-60 | Clay loam,<br>gravelly clay<br>loam                         | CL, GC, SC     | A-6    | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |

| Map symbol<br>and soil name | Depth | USDA texture                                                | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|-------------------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                             | Unified        | AASHTO   | >10       | 3-10   | 4                                    | 10     | 40    | 200   |                 |                          |
|                             |       |                                                             |                |          | inches    | inches |                                      |        |       |       |                 |                          |
|                             | In.   |                                                             |                |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 134:<br>Fewkes-----         | 0-12  | Gravelly loam                                               | CL, SC, GC     | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-17 | Clay loam                                                   | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-22 | Clay loam,<br>gravelly clay<br>loam                         | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 22-28 | Clay loam,<br>gravelly clay<br>loam                         | CL, GC         | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 28-40 | Clay loam,<br>gravelly clay<br>loam                         | SC, GC, CL     | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 40-50 | Clay loam,<br>gravelly clay<br>loam, gravelly<br>loam, loam | CL, GC, SC     | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
|                             | 50-60 | Gravelly clay<br>loam, clay<br>loam, gravelly<br>loam, loam | CL, GC, SC     | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
| Yeates Hollow---            | 0-12  | Very stony loam                                             | SC, GC         | A-6, A-2 | 15-30     | 15-30  | 60-80                                | 55-75  | 45-65 | 30-50 | 30-35           | 10-15                    |
|                             | 12-25 | Very cobbly<br>clay                                         | CH, SC, GC     | A-7      | 0-15      | 20-45  | 60-80                                | 55-75  | 50-70 | 45-65 | 55-65           | 35-40                    |
|                             | 25-37 | Very cobbly<br>clay                                         | SC, GC         | A-7      | 0-15      | 20-45  | 60-80                                | 55-75  | 50-70 | 45-65 | 55-65           | 35-40                    |
|                             | 37-43 | Extremely<br>cobbly clay<br>loam                            | GC             | A-7, A-2 | 0-25      | 30-50  | 45-65                                | 40-60  | 35-55 | 30-50 | 50-55           | 30-35                    |
|                             | 43-53 | Bedrock                                                     |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 135:<br>Fewkes-----         | 0-12  | Gravelly loam                                               | CL, SC, GC     | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-17 | Clay loam                                                   | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-22 | Clay loam,<br>gravelly clay<br>loam                         | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 22-28 | Clay loam,<br>gravelly clay<br>loam                         | CL, GC         | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 28-40 | Clay loam,<br>gravelly clay<br>loam                         | SC, GC, CL     | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 40-50 | Clay loam,<br>gravelly clay<br>loam, gravelly<br>loam, loam | CL, GC, SC     | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
|                             | 50-60 | Gravelly clay<br>loam, clay<br>loam, gravelly<br>loam, loam | CL, GC, SC     | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
| Yeates Hollow---            | 0-12  | Very stony loam                                             | SC, GC         | A-6, A-2 | 15-30     | 15-30  | 60-80                                | 55-75  | 45-65 | 30-50 | 30-35           | 10-15                    |
|                             | 12-25 | Very cobbly<br>clay                                         | CH, SC, GC     | A-7      | 0-15      | 20-45  | 60-80                                | 55-75  | 50-70 | 45-65 | 55-65           | 35-40                    |
|                             | 25-37 | Very cobbly<br>clay                                         | SC, GC         | A-7      | 0-15      | 20-45  | 60-80                                | 55-75  | 50-70 | 45-65 | 55-65           | 35-40                    |
|                             | 37-43 | Extremely<br>cobbly clay<br>loam                            | GC             | A-7, A-2 | 0-25      | 30-50  | 45-65                                | 40-60  | 35-55 | 30-50 | 50-55           | 30-35                    |
|                             | 43-53 | Bedrock                                                     |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|-------------------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                             | Unified        | AASHTO   | >10       | 3-10   | 4                                    | 10     | 40    | 200   |                 |                          |
|                             |       |                                                             |                |          | inches    | inches |                                      |        |       |       |                 |                          |
|                             | In.   |                                                             |                |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 136:<br>Hades-----          | 0-3   | Loam                                                        | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 3-18  | Loam                                                        | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 18-33 | Clay loam                                                   | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 33-44 | Clay loam                                                   | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 44-60 | Clay loam,<br>gravelly clay<br>loam                         | CL, GC, SC     | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
| Agassiz-----                | 0-6   | Very cobbly<br>loam                                         | GC, SC         | A-2, A-6 | 5-15      | 25-50  | 60-80                                | 55-70  | 45-65 | 30-50 | 30-35           | 10-15                    |
|                             | 6-14  | Very cobbly<br>loam,<br>extremely<br>cobbly loam            | GC, SC         | A-2, A-6 | 10-20     | 25-50  | 45-80                                | 40-75  | 35-65 | 25-50 | 30-35           | 10-15                    |
|                             | 14-24 | Bedrock                                                     |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Rock outcrop----            | ---   | ---                                                         | ---            | ---      | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 137:<br>Hades-----          | 0-3   | Loam                                                        | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 3-18  | Loam                                                        | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 18-33 | Clay loam                                                   | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 33-44 | Clay loam                                                   | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 44-60 | Clay loam,<br>gravelly clay<br>loam                         | CL, GC, SC     | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
| Fewkes-----                 | 0-12  | Gravelly loam                                               | CL, SC, GC     | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-17 | Clay loam                                                   | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-22 | Clay loam,<br>gravelly clay<br>loam                         | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 22-28 | Clay loam,<br>gravelly clay<br>loam                         | CL, GC         | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 28-40 | Clay loam,<br>gravelly clay<br>loam                         | SC, GC, CL     | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 40-50 | Clay loam,<br>gravelly clay<br>loam, gravelly<br>loam, loam | CL, GC, SC     | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
|                             | 50-60 | Gravelly clay<br>loam, clay<br>loam, gravelly<br>loam, loam | CL, GC, SC     | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
| 138:<br>Hades-----          | 0-3   | Loam                                                        | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 3-18  | Loam                                                        | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 18-33 | Clay loam                                                   | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 33-44 | Clay loam                                                   | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 44-60 | Clay loam,<br>gravelly clay<br>loam                         | CL, GC, SC     | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                | Classification         |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|-------------------------------------------------------------|------------------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                             | Unified                | AASHTO   | >10       | 3-10   | 4                                    | 10     | 40    | 200   |                 |                          |
|                             |       |                                                             |                        |          | inches    | inches |                                      |        |       |       |                 |                          |
|                             | In.   |                                                             |                        |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 138:<br>Fewkes-----         | 0-12  | Gravelly loam                                               | CL, SC, GC             | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-17 | Clay loam                                                   | CL                     | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-22 | Clay loam,<br>gravelly clay<br>loam                         | CL                     | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 22-28 | Clay loam,<br>gravelly clay<br>loam                         | CL, GC                 | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 28-40 | Clay loam,<br>gravelly clay<br>loam                         | SC, GC, CL             | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 40-50 | Clay loam,<br>gravelly clay<br>loam, gravelly<br>loam, loam | CL, GC, SC             | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
|                             | 50-60 | Gravelly clay<br>loam, clay<br>loam, gravelly<br>loam, loam | CL, GC, SC             | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
| 139:<br>Harter-----         | 0-5   | Gravelly loam                                               | GC, SC                 | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-50 | 30-35           | 10-15                    |
|                             | 5-12  | Gravelly loam                                               | GC, SC                 | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-50 | 30-35           | 10-15                    |
|                             | 12-19 | Gravelly loam                                               | GC, SC                 | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-50 | 30-35           | 10-15                    |
|                             | 19-24 | Gravelly clay<br>loam                                       | GC, SC, CH             | A-7      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-55 | 50-55           | 30-35                    |
|                             | 24-33 | Gravelly clay                                               | CH, GC, SC             | A-7      | 0         | 0-10   | 60-80                                | 55-75  | 50-70 | 45-65 | 50-65           | 35-40                    |
|                             | 33-60 | Gravelly clay                                               | CH, GC, SC             | A-7      | 0         | 0-10   | 60-80                                | 55-75  | 50-70 | 45-65 | 55-65           | 35-40                    |
| 140:<br>Heiners-----        | 0-3   | Gravelly loam                                               | CL-ML, GC-GM,<br>SC-SM | A-4      | 0         | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 3-8   | Gravelly loam                                               | GC-GM, SC-SM           | A-4      | 0         | 0-40   | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 8-12  | Very gravelly<br>loam, very<br>cobbly loam                  | GC-GM, SC-SM           | A-2, A-4 | 0-15      | 5-45   | 40-80                                | 35-75  | 30-65 | 20-50 | 20-30           | 5-10                     |
|                             | 12-19 | Very gravelly<br>loam, very<br>cobbly loam                  | GC-GM, SC-SM           | A-2, A-4 | 0-15      | 5-45   | 40-80                                | 35-75  | 30-65 | 20-50 | 20-30           | 5-10                     |
|                             | 19-29 | Bedrock                                                     |                        |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Fewkes-----                 | 0-12  | Gravelly loam                                               | CL, SC, GC             | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-17 | Clay loam                                                   | CL                     | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-22 | Clay loam,<br>gravelly clay<br>loam                         | CL                     | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 22-28 | Clay loam,<br>gravelly clay<br>loam                         | CL, GC                 | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 28-40 | Clay loam,<br>gravelly clay<br>loam                         | SC, GC, CL             | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 40-50 | Clay loam,<br>gravelly clay<br>loam, gravelly<br>loam, loam | CL, GC, SC             | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
|                             | 50-60 | Gravelly clay<br>loam, clay<br>loam, gravelly<br>loam, loam | CL, GC, SC             | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                       | Classification      |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|----------------------------------------------------|---------------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                    | Unified             | AASHTO   | >10       | 3-10   | 4                                    | 10     | 40    | 200   |                 |                          |
|                             |       |                                                    |                     |          | inches    | inches |                                      |        |       |       |                 |                          |
|                             | In.   |                                                    |                     |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 141:<br>Heiners-----        | 0-3   | Gravelly loam                                      | CL-ML, GC-GM, SC-SM | A-4      | 0         | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 3-8   | Gravelly loam                                      | GC-GM, SC-SM        | A-4      | 0         | 0-40   | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 8-12  | Very gravelly loam, very cobbly loam               | GC-GM, SC-SM        | A-2, A-4 | 0-15      | 5-45   | 40-80                                | 35-75  | 30-65 | 20-50 | 20-30           | 5-10                     |
|                             | 12-19 | Very gravelly loam, very cobbly loam               | GC-GM, SC-SM        | A-2, A-4 | 0-15      | 5-45   | 40-80                                | 35-75  | 30-65 | 20-50 | 20-30           | 5-10                     |
|                             | 19-29 | Bedrock                                            |                     |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Fewkes-----                 | 0-12  | Gravelly loam                                      | CL, SC, GC          | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-17 | Clay loam                                          | CL                  | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-22 | Clay loam, gravelly clay loam                      | CL                  | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 22-28 | Clay loam, gravelly clay loam                      | CL, GC              | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 28-40 | Clay loam, gravelly clay loam                      | SC, GC, CL          | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
|                             | 40-50 | Clay loam, gravelly clay loam, gravelly loam, loam | CL, GC, SC          | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
|                             | 50-60 | Gravelly clay loam, clay loam, gravelly loam, loam | CL, GC, SC          | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90 | 35-75 | 30-40           | 10-20                    |
| Hades-----                  | 0-3   | Loam                                               | CL                  | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 3-18  | Loam                                               | CL                  | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 18-33 | Clay loam                                          | CL                  | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 33-44 | Clay loam                                          | CL                  | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 44-60 | Clay loam, gravelly clay loam                      | CL, GC, SC          | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                                                  | Classification    |          | Fragments |        | Percentage passing<br>sieve number-- |       |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|-----------------------------------------------------------------------------------------------|-------------------|----------|-----------|--------|--------------------------------------|-------|-------|-------|-----------------|--------------------------|
|                             |       |                                                                                               | Unified           | AASHTO   | >10       | 3-10   | 4                                    | 10    | 40    | 200   |                 |                          |
|                             |       |                                                                                               |                   |          | inches    | inches |                                      |       |       |       |                 |                          |
|                             | In.   |                                                                                               |                   |          | Pct.      | Pct.   |                                      |       |       |       | Pct.            |                          |
| 142:<br>Henefer-----        | 0-7   | Gravelly loam                                                                                 | CL, GC, SC        | A-6      | 0         | 0-5    | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 7-12  | Gravelly loam                                                                                 | GC, SC            | A-6      | 0         | 0-10   | 60-80                                | 55-75 | 45-65 | 35-50 | 30-35           | 10-15                    |
|                             | 12-21 | Cobbly clay,<br>gravelly clay<br>loam, gravelly<br>silty clay<br>loam                         | CH, GC, SC        | A-7      | 0-5       | 0-30   | 60-95                                | 55-90 | 45-85 | 35-80 | 50-65           | 30-40                    |
|                             | 21-30 | Cobbly clay,<br>gravelly clay<br>loam, gravelly<br>silty clay<br>loam                         | CL, SC, CH        | A-2, A-7 | 0-5       | 0-30   | 60-95                                | 55-90 | 45-85 | 20-80 | 45-65           | 25-40                    |
|                             | 30-37 | Very gravelly<br>clay loam,<br>very cobbly<br>clay loam,<br>very cobbly<br>sandy clay<br>loam | CH, SC, GC,<br>CL | A-2, A-7 | 0-10      | 0-40   | 40-80                                | 35-75 | 30-65 | 20-55 | 45-55           | 25-35                    |
|                             | 37-43 | Very gravelly<br>clay loam,<br>very cobbly<br>clay loam,<br>very cobbly<br>sandy clay<br>loam | CH, SC, GC,<br>CL | A-2, A-7 | 0-10      | 0-40   | 40-80                                | 35-75 | 30-65 | 20-55 | 45-55           | 25-35                    |
|                             | 43-50 | Very cobbly<br>sandy clay<br>loam, very<br>cobbly clay<br>loam, very<br>gravelly clay<br>loam | CH, SC, GC,<br>CL | A-2, A-7 | 0-10      | 0-40   | 40-80                                | 35-75 | 30-65 | 20-55 | 45-55           | 25-35                    |
|                             | 50-60 | Very cobbly<br>sandy clay<br>loam, very<br>cobbly clay<br>loam, very<br>gravelly clay<br>loam | SC, GC, CL        | A-2      | 0-10      | 0-40   | 40-80                                | 35-75 | 30-65 | 20-55 | 35-40           | 15-20                    |
|                             |       |                                                                                               |                   |          |           |        |                                      |       |       |       |                 |                          |
|                             |       |                                                                                               |                   |          |           |        |                                      |       |       |       |                 |                          |
| Harter-----                 | 0-5   | Gravelly loam                                                                                 | GC, SC            | A-6      | 0         | 0-5    | 60-80                                | 55-75 | 45-65 | 35-50 | 30-35           | 10-15                    |
|                             | 5-12  | Gravelly loam                                                                                 | GC, SC            | A-6      | 0         | 0-5    | 60-80                                | 55-75 | 45-65 | 35-50 | 30-35           | 10-15                    |
|                             | 12-19 | Gravelly loam                                                                                 | GC, SC            | A-6      | 0         | 0-5    | 60-80                                | 55-75 | 45-65 | 35-50 | 30-35           | 10-15                    |
|                             | 19-24 | Gravelly clay<br>loam                                                                         | GC, SC, CH        | A-7      | 0         | 0-5    | 60-80                                | 55-75 | 45-65 | 35-55 | 50-55           | 30-35                    |
|                             | 24-33 | Gravelly clay                                                                                 | CH, GC, SC        | A-7      | 0         | 0-10   | 60-80                                | 55-75 | 50-70 | 45-65 | 50-65           | 35-40                    |
|                             | 33-60 | Gravelly clay                                                                                 | CH, GC, SC        | A-7      | 0         | 0-10   | 60-80                                | 55-75 | 50-70 | 45-65 | 55-65           | 35-40                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth        | USDA texture                                         | Classification                          |          | Fragments     |                | Percentage passing<br>sieve number-- |       |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |       |
|-----------------------------|--------------|------------------------------------------------------|-----------------------------------------|----------|---------------|----------------|--------------------------------------|-------|-------|-------|-----------------|--------------------------|-------|
|                             |              |                                                      | Unified                                 | AASHTO   | >10<br>inches | 3-10<br>inches | 4                                    | 10    | 40    | 200   |                 |                          |       |
|                             | In.          |                                                      |                                         |          | Pct.          | Pct.           |                                      |       |       |       | Pct.            |                          |       |
| 143:<br>Horrocks-----       | 0-10         | Very cobbly loam                                     | GC, SC                                  | A-2, A-6 | 0-10          | 20-45          | 55-80                                | 45-75 | 45-65 | 30-50 | 30-35           | 10-15                    |       |
|                             | 10-19        | Very cobbly clay loam, very gravelly sandy clay loam | GC, SC                                  | A-2, A-6 | 0-10          | 10-45          | 35-80                                | 25-75 | 25-65 | 15-50 | 35-40           | 15-20                    |       |
|                             | 19-32        | Very cobbly clay loam, very gravelly sandy clay loam | GC, SC                                  | A-2, A-6 | 0-10          | 10-45          | 35-80                                | 25-75 | 25-65 | 15-50 | 35-40           | 15-20                    |       |
|                             | 32-40        | Very cobbly clay loam, very gravelly sandy clay loam | GC, SC                                  | A-2, A-6 | 0-10          | 10-45          | 35-80                                | 25-75 | 25-65 | 15-50 | 35-40           | 15-20                    |       |
|                             | 40-59        | Very gravelly loam, very cobbly sandy clay loam      | GC, SC                                  | A-2, A-6 | 0-10          | 0-45           | 35-80                                | 30-75 | 30-65 | 20-40 | 30-35           | 10-15                    |       |
|                             | 59-60        | Bedrock                                              |                                         |          | ---           | ---            | ---                                  | ---   | ---   | ---   | ---             | ---                      |       |
|                             | Agassiz----- | 0-6                                                  | Very cobbly loam                        | GC, SC   | A-2, A-6      | 5-15           | 25-50                                | 60-80 | 55-70 | 45-65 | 30-50           | 30-35                    | 10-15 |
|                             |              | 6-14                                                 | Very cobbly loam, extremely cobbly loam | GC, SC   | A-2, A-6      | 10-20          | 25-50                                | 45-80 | 40-75 | 35-65 | 25-50           | 30-35                    | 10-15 |
| 14-24                       |              | Bedrock                                              |                                         |          | ---           | ---            | ---                                  | ---   | ---   | ---   | ---             | ---                      |       |
| 144:<br>Horrocks-----       | 0-10         | Very cobbly loam                                     | GC, SC                                  | A-2, A-6 | 0-10          | 20-45          | 55-80                                | 45-75 | 45-65 | 30-50 | 30-35           | 10-15                    |       |
|                             | 10-19        | Very cobbly clay loam, very gravelly sandy clay loam | GC, SC                                  | A-2, A-6 | 0-10          | 10-45          | 35-80                                | 25-75 | 25-65 | 15-50 | 35-40           | 15-20                    |       |
|                             | 19-32        | Very cobbly clay loam, very gravelly sandy clay loam | GC, SC                                  | A-2, A-6 | 0-10          | 10-45          | 35-80                                | 25-75 | 25-65 | 15-50 | 35-40           | 15-20                    |       |
|                             | 32-40        | Very cobbly clay loam, very gravelly sandy clay loam | GC, SC                                  | A-2, A-6 | 0-10          | 10-45          | 35-80                                | 25-75 | 25-65 | 15-50 | 35-40           | 15-20                    |       |
|                             | 40-59        | Very gravelly loam, very cobbly sandy clay loam      | GC, SC                                  | A-2, A-6 | 0-10          | 0-45           | 35-80                                | 30-75 | 30-65 | 20-40 | 30-35           | 10-15                    |       |
|                             | 59-60        | Bedrock                                              |                                         |          | ---           | ---            | ---                                  | ---   | ---   | ---   | ---             | ---                      |       |



| Map symbol<br>and soil name | Depth | USDA texture                                         | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |       |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|------------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|-------|-------|-------|-----------------|--------------------------|
|                             |       |                                                      | Unified        | AASHTO   | >10       | 3-10   |                                      |       |       |       |                 |                          |
|                             |       |                                                      |                |          | inches    | inches | 4                                    | 10    | 40    | 200   |                 |                          |
|                             | In.   |                                                      |                |          | Pct.      | Pct.   |                                      |       |       |       | Pct.            |                          |
| 144:<br>Cutoff-----         | 0-1   | Very gravelly loam                                   | GC             | A-6, A-2 | 0-5       | 5-15   | 40-60                                | 35-55 | 30-50 | 20-40 | 20-35           | 10-15                    |
|                             | 1-9   | Very gravelly loam                                   | GC             | A-6, A-2 | 0-5       | 5-15   | 40-60                                | 35-55 | 30-50 | 20-40 | 20-35           | 10-15                    |
|                             | 9-16  | Very gravelly loam                                   | GC             | A-6, A-2 | 0-5       | 5-15   | 40-60                                | 35-55 | 30-50 | 20-40 | 20-35           | 10-15                    |
|                             | 16-29 | Very gravelly loam                                   | GC             | A-6, A-2 | 0-5       | 5-15   | 40-60                                | 35-55 | 30-50 | 20-40 | 20-35           | 10-15                    |
|                             | 29-38 | Very gravelly loam                                   | GC             | A-6, A-2 | 0-5       | 5-15   | 40-60                                | 35-55 | 30-50 | 20-40 | 20-35           | 10-15                    |
|                             | 38-48 | Bedrock                                              |                |          | ---       | ---    | ---                                  | ---   | ---   | ---   | ---             | ---                      |
| 145:<br>Horrocks-----       | 0-10  | Very cobbly loam                                     | GC, SC         | A-2, A-6 | 0-10      | 20-45  | 55-80                                | 45-75 | 45-65 | 30-50 | 30-35           | 10-15                    |
|                             | 10-19 | Very cobbly clay loam, very gravelly sandy clay loam | GC, SC         | A-2, A-6 | 0-10      | 10-45  | 35-80                                | 25-75 | 25-65 | 15-50 | 35-40           | 15-20                    |
|                             | 19-32 | Very cobbly clay loam, very gravelly sandy clay loam | GC, SC         | A-2, A-6 | 0-10      | 10-45  | 35-80                                | 25-75 | 25-65 | 15-50 | 35-40           | 15-20                    |
|                             | 32-40 | Very cobbly clay loam, very gravelly sandy clay loam | GC, SC         | A-2, A-6 | 0-10      | 10-45  | 35-80                                | 25-75 | 25-65 | 15-50 | 35-40           | 15-20                    |
|                             | 40-59 | Very gravelly loam, very cobbly sandy clay loam      | GC, SC         | A-2, A-6 | 0-10      | 0-45   | 35-80                                | 30-75 | 30-65 | 20-40 | 30-35           | 10-15                    |
|                             | 59-60 | Bedrock                                              |                |          | ---       | ---    | ---                                  | ---   | ---   | ---   | ---             | ---                      |
| Cutoff-----                 | 0-1   | Very gravelly loam                                   | GC             | A-6, A-2 | 0-5       | 5-15   | 40-60                                | 35-55 | 30-50 | 20-40 | 20-35           | 10-15                    |
|                             | 1-9   | Very gravelly loam                                   | GC             | A-6, A-2 | 0-5       | 5-15   | 40-60                                | 35-55 | 30-50 | 20-40 | 20-35           | 10-15                    |
|                             | 9-16  | Very gravelly loam                                   | GC             | A-6, A-2 | 0-5       | 5-15   | 40-60                                | 35-55 | 30-50 | 20-40 | 20-35           | 10-15                    |
|                             | 16-29 | Very gravelly loam                                   | GC             | A-6, A-2 | 0-5       | 5-15   | 40-60                                | 35-55 | 30-50 | 20-40 | 20-35           | 10-15                    |
|                             | 29-38 | Very gravelly loam                                   | GC             | A-6, A-2 | 0-5       | 5-15   | 40-60                                | 35-55 | 30-50 | 20-40 | 20-35           | 10-15                    |
|                             | 38-48 | Bedrock                                              |                |          | ---       | ---    | ---                                  | ---   | ---   | ---   | ---             | ---                      |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                         | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|------------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                      | Unified        | AASHTO   | >10       | 3-10   | 4                                    | 10     | 40    | 200   |                 |                          |
|                             |       |                                                      |                |          | inches    | inches |                                      |        |       |       |                 |                          |
|                             | In.   |                                                      |                |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 146:<br>Horrocks-----       | 0-10  | Very cobbly loam                                     | GC, SC         | A-2, A-6 | 0-10      | 20-45  | 55-80                                | 45-75  | 45-65 | 30-50 | 30-35           | 10-15                    |
|                             | 10-19 | Very cobbly clay loam, very gravelly sandy clay loam | GC, SC         | A-2, A-6 | 0-10      | 10-45  | 35-80                                | 25-75  | 25-65 | 15-50 | 35-40           | 15-20                    |
|                             | 19-32 | Very cobbly clay loam, very gravelly sandy clay loam | GC, SC         | A-2, A-6 | 0-10      | 10-45  | 35-80                                | 25-75  | 25-65 | 15-50 | 35-40           | 15-20                    |
|                             | 32-40 | Very cobbly clay loam, very gravelly sandy clay loam | GC, SC         | A-2, A-6 | 0-10      | 10-45  | 35-80                                | 25-75  | 25-65 | 15-50 | 35-40           | 15-20                    |
|                             | 40-59 | Very gravelly loam, very cobbly sandy clay loam      | GC, SC         | A-2, A-6 | 0-10      | 0-45   | 35-80                                | 30-75  | 30-65 | 20-40 | 30-35           | 10-15                    |
|                             | 59-60 | Bedrock                                              |                |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Hades-----                  | 0-3   | Loam                                                 | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 3-18  | Loam                                                 | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 18-33 | Clay loam                                            | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 33-44 | Clay loam                                            | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 44-60 | Clay loam, gravelly clay loam                        | CL, GC, SC     | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95 | 35-80 | 35-40           | 15-20                    |
| 147:<br>Hovarka-----        | 0-4   | Slightly decomposed plant material                   |                |          | 0         | 0      | ---                                  | ---    | ---   | ---   | ---             | ---                      |
|                             | 4-12  | Loam                                                 | CL             | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 12-32 | Loam                                                 | CL             | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 32-36 | Very gravelly loamy sand, very cobbly loamy sand     | GM, SM         | A-1      | 0-10      | 10-40  | 40-80                                | 35-75  | 15-50 | 5-20  | 10-20           | NP                       |
|                             | 36-64 | Very cobbly sand, very gravelly sand                 | SP, GP         | A-1      | 0-15      | 10-40  | 40-80                                | 35-75  | 15-50 | 0-10  | 0-0             | NP                       |
| Millcreek-----              | 0-14  | Loam                                                 | CL             | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 14-24 | Loam                                                 | CL             | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 24-60 | Very cobbly sand, very gravelly loamy sand           | SP, GM, SM     | A-1      | 0-10      | 10-40  | 40-80                                | 35-75  | 15-50 | 0-15  | 5-20            | NP                       |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth      | USDA texture                                                                               | Classification |          | Fragments     |                | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|------------|--------------------------------------------------------------------------------------------|----------------|----------|---------------|----------------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |            |                                                                                            | Unified        | AASHTO   | >10<br>inches | 3-10<br>inches | 4                                    | 10     | 40    | 200   |                 |                          |
|                             | <u>In.</u> |                                                                                            |                |          | <u>Pct.</u>   | <u>Pct.</u>    |                                      |        |       |       | <u>Pct.</u>     |                          |
| 148:<br>Jana-----           | 0-1        | Very gravelly<br>loam                                                                      | GC-GM          | A-2, A-4 | 0-10          | 0-20           | 40-60                                | 35-55  | 30-50 | 20-40 | 20-30           | 5-10                     |
|                             | 1-6        | Very gravelly<br>loam                                                                      | GC-GM          | A-2, A-4 | 0-10          | 0-20           | 40-60                                | 35-55  | 30-50 | 20-40 | 20-30           | 5-10                     |
|                             | 6-12       | Extremely<br>cobbly loam,<br>very gravelly<br>loam, very<br>gravelly fine<br>sandy loam    | SC-SM, GC-GM   | A-4, A-2 | 0-20          | 10-50          | 40-65                                | 35-60  | 25-55 | 15-45 | 20-30           | 5-10                     |
|                             | 12-22      | Bedrock                                                                                    |                |          | ---           | ---            | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Richsum-----                | 0-2        | Silt loam                                                                                  | CL             | A-6      | 0             | 0              | 85-100                               | 80-100 | 75-95 | 60-80 | 30-35           | 10-15                    |
|                             | 2-14       | Loam, silt loam                                                                            | CL             | A-6      | 0             | 0              | 85-100                               | 80-100 | 70-95 | 55-80 | 30-35           | 10-15                    |
|                             | 14-23      | Silt loam, loam                                                                            | CL             | A-6      | 0             | 0              | 85-100                               | 80-100 | 70-95 | 55-80 | 30-35           | 10-15                    |
|                             | 23-32      | Silt loam, loam                                                                            | CL             | A-6      | 0             | 0              | 85-100                               | 80-100 | 70-95 | 55-80 | 30-35           | 10-15                    |
|                             | 32-52      | Silt loam,<br>gravelly silt<br>loam, loam                                                  | SC, GC, CL     | A-6      | 0             | 0              | 60-100                               | 55-100 | 50-95 | 45-80 | 30-35           | 10-15                    |
|                             | 52-60      | Bedrock                                                                                    |                |          | ---           | ---            | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Rock outcrop----            | ---        | ---                                                                                        | ---            | ---      | ---           | ---            | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 149:<br>Kovich-----         | 0-9        | Loam                                                                                       | CL             | A-6      | 0             | 0-10           | 85-100                               | 80-100 | 70-90 | 55-80 | 30-35           | 10-15                    |
|                             | 9-22       | Loam, clay loam                                                                            | CL             | A-6      | 0             | 0-10           | 85-100                               | 80-100 | 70-95 | 55-80 | 30-40           | 10-20                    |
|                             | 22-29      | Clay loam, loam                                                                            | CL             | A-6      | 0             | 0-10           | 85-100                               | 80-100 | 70-95 | 55-80 | 30-40           | 10-20                    |
|                             | 29-44      | Fine sandy<br>loam, very<br>gravelly sandy<br>clay loam                                    | GC, SC, SC-SM  | A-2, A-4 | 0             | 0-20           | 40-100                               | 35-100 | 25-80 | 15-50 | 20-35           | 5-15                     |
|                             | 44-60      | Very gravelly<br>loamy fine<br>sand, very<br>gravelly sand,<br>very gravelly<br>loamy sand | SM, GM         | A-1      | 0-10          | 0-20           | 40-60                                | 35-55  | 15-35 | 0-15  | ---             | ---                      |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                                                                  | Classification           |          | Fragments     |                | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|---------------------------------------------------------------------------------------------------------------|--------------------------|----------|---------------|----------------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                                                                               | Unified                  | AASHTO   | >10<br>inches | 3-10<br>inches | 4                                    | 10     | 40    | 200   |                 |                          |
|                             | In.   |                                                                                                               |                          |          | Pct.          | Pct.           |                                      |        |       |       | Pct.            |                          |
| 149:<br>Toddspan-----       | 0-4   | Loam                                                                                                          | CL                       | A-6      | 0             | 0-10           | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 4-14  | Loam                                                                                                          | CL                       | A-6      | 0             | 0-10           | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 14-19 | Loam                                                                                                          | CL                       | A-6      | 0             | 0-10           | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 19-24 | Very cobbly<br>clay loam,<br>very cobbly<br>loam                                                              | SC, GC, CL               | A-6, A-2 | 0-10          | 20-45          | 60-80                                | 55-75  | 45-65 | 30-55 | 30-40           | 10-20                    |
|                             | 24-32 | Very cobbly<br>clay loam,<br>very cobbly<br>loam                                                              | SC, GC, CL               | A-6, A-2 | 0-10          | 20-45          | 60-80                                | 55-75  | 45-65 | 30-55 | 30-40           | 10-20                    |
|                             | 32-37 | Extremely<br>cobbly sandy<br>clay loam,<br>extremely<br>gravelly sandy<br>clay loam,<br>very gravelly<br>loam | SC, GC                   | A-6, A-2 | 0-20          | 10-50          | 20-65                                | 15-60  | 10-50 | 5-40  | 30-35           | 10-15                    |
|                             | 37-44 | Extremely<br>gravelly sandy<br>clay loam,<br>very gravelly<br>loam,<br>extremely<br>cobbly sandy<br>clay loam | SC, GC                   | A-6, A-2 | 0-20          | 10-50          | 20-65                                | 15-60  | 10-50 | 5-40  | 30-35           | 10-15                    |
|                             | 44-60 | Very cobbly<br>sand,<br>extremely<br>gravelly loamy<br>sand                                                   | SP, GP, SP-<br>SM, GP-GM | A-1      | 0-20          | 10-45          | 20-80                                | 15-75  | 5-50  | 0-10  | 5-20            | NP                       |
| 150:<br>Lucky Star-----     | 0-6   | Gravelly loam                                                                                                 | SC, GC, CL               | A-6      | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 6-12  | Gravelly loam                                                                                                 | SC, CL, GC               | A-6      | 0-15          | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-25 | Very gravelly<br>fine sandy<br>loam, very<br>cobbly sandy<br>loam, very<br>cobbly fine<br>sandy loam          | GC-GM, SC-SM             | A-2      | 0-15          | 10-45          | 40-80                                | 35-75  | 25-50 | 15-30 | 20-30           | 5-10                     |
|                             | 25-47 | Very cobbly<br>sandy loam,<br>very cobbly<br>fine sandy<br>loam                                               | GC-GM, SC-SM             | A-2      | 0-15          | 10-45          | 40-80                                | 35-75  | 25-50 | 15-30 | 20-30           | 5-10                     |
|                             | 47-62 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly sandy<br>clay loam                                        | GC, SC                   | A-6, A-2 | 0-15          | 10-45          | 40-80                                | 35-75  | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 62-80 | Very gravelly<br>sandy clay<br>loam, very<br>cobbly sandy<br>clay loam                                        | SC, GC                   | A-6, A-2 | 0-15          | 10-45          | 40-80                                | 35-75  | 25-65 | 15-40 | 30-40           | 10-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                                                         | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |       |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|------------------------------------------------------------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|-------|-------|-------|-----------------|--------------------------|
|                             |       |                                                                                                      | Unified        | AASHTO   | >10       | 3-10   | 4                                    | 10    | 40    | 200   |                 |                          |
|                             |       |                                                                                                      |                |          | inches    | inches |                                      |       |       |       |                 |                          |
|                             | In.   |                                                                                                      |                |          | Pct.      | Pct.   |                                      |       |       |       | Pct.            |                          |
| 151:<br>Lucky Star-----     | 0-6   | Gravelly loam                                                                                        | SC, GC, CL     | A-6      | 0         | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 6-12  | Gravelly loam                                                                                        | SC, CL, GC     | A-6      | 0-15      | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-25 | Very gravelly<br>fine sandy<br>loam, very<br>cobbly sandy<br>loam, very<br>cobbly fine<br>sandy loam | GC-GM, SC-SM   | A-2      | 0-15      | 10-45  | 40-80                                | 35-75 | 25-50 | 15-30 | 20-30           | 5-10                     |
|                             | 25-47 | Very cobbly<br>sandy loam,<br>very cobbly<br>fine sandy<br>loam                                      | GC-GM, SC-SM   | A-2      | 0-15      | 10-45  | 40-80                                | 35-75 | 25-50 | 15-30 | 20-30           | 5-10                     |
|                             | 47-62 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly sandy<br>clay loam                               | SC, GC         | A-6, A-2 | 0-15      | 10-45  | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 62-80 | Very gravelly<br>sandy clay<br>loam, very<br>cobbly sandy<br>clay loam                               | SC, GC         | A-6, A-2 | 0-15      | 10-45  | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
| 152:<br>Lucky Star-----     | 0-6   | Gravelly loam                                                                                        | SC, GC, CL     | A-6      | 0         | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 6-12  | Gravelly loam                                                                                        | SC, CL, GC     | A-6      | 0-15      | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 12-25 | Very gravelly<br>fine sandy<br>loam, very<br>cobbly sandy<br>loam, very<br>cobbly fine<br>sandy loam | GC-GM, SC-SM   | A-2      | 0-15      | 10-45  | 40-80                                | 35-75 | 25-50 | 15-30 | 20-30           | 5-10                     |
|                             | 25-47 | Very cobbly<br>sandy loam,<br>very cobbly<br>fine sandy<br>loam                                      | GC-GM, SC-SM   | A-2      | 0-15      | 10-45  | 40-80                                | 35-75 | 25-50 | 15-30 | 20-30           | 5-10                     |
|                             | 47-62 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly sandy<br>clay loam                               | SC, GC         | A-6, A-2 | 0-15      | 10-45  | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 62-80 | Very gravelly<br>sandy clay<br>loam, very<br>cobbly sandy<br>clay loam                               | SC, GC         | A-6, A-2 | 0-15      | 10-45  | 40-80                                | 35-75 | 25-65 | 15-40 | 30-40           | 10-20                    |
| Dromedary-----              | 0-6   | Gravelly loam                                                                                        | SC-SM, GC-GM   | A-4      | 0-5       | 0-10   | 65-85                                | 60-80 | 50-70 | 40-60 | 25-30           | 5-10                     |
|                             | 6-22  | Very cobbly<br>sandy loam                                                                            | SC-SM, GC-GM   | A-2      | 0-10      | 30-40  | 60-80                                | 55-75 | 30-50 | 15-30 | 20-25           | 5-10                     |
|                             | 22-44 | Very cobbly<br>sandy clay<br>loam                                                                    | SC, GC         | A-6, A-2 | 0-10      | 30-40  | 60-80                                | 55-75 | 45-65 | 20-40 | 35-40           | 15-20                    |
|                             | 44-51 | Very cobbly<br>sandy clay<br>loam                                                                    | SC, GC         | A-6, A-2 | 0-10      | 30-40  | 60-80                                | 55-75 | 45-65 | 20-40 | 35-40           | 15-20                    |
|                             | 51-60 | Very cobbly<br>sandy clay<br>loam                                                                    | SC, GC         | A-6, A-2 | 0-10      | 30-40  | 60-80                                | 55-75 | 45-65 | 20-40 | 35-40           | 15-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                                                         | Classification |          | Fragments |        | Percentage passing<br>sieve number-- |        |        |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|------------------------------------------------------------------------------------------------------|----------------|----------|-----------|--------|--------------------------------------|--------|--------|-------|-----------------|--------------------------|
|                             |       |                                                                                                      | Unified        | AASHTO   | >10       | 3-10   |                                      |        |        |       |                 |                          |
|                             |       |                                                                                                      |                |          | inches    | inches | 4                                    | 10     | 40     | 200   |                 |                          |
|                             | In.   |                                                                                                      |                |          | Pct.      | Pct.   |                                      |        |        |       | Pct.            |                          |
| 153:                        |       |                                                                                                      |                |          |           |        |                                      |        |        |       |                 |                          |
| Lucky Star-----             | 0-6   | Gravelly loam                                                                                        | SC, GC, CL     | A-6      | 0         | 0-10   | 60-80                                | 55-75  | 45-65  | 35-55 | 30-35           | 10-15                    |
|                             | 6-12  | Gravelly loam                                                                                        | SC, CL, GC     | A-6      | 0-15      | 0-10   | 60-80                                | 55-75  | 45-65  | 35-55 | 30-35           | 10-15                    |
|                             | 12-25 | Very gravelly<br>fine sandy<br>loam, very<br>cobbly sandy<br>loam, very<br>cobbly fine<br>sandy loam | GC-GM, SC-SM   | A-2      | 0-15      | 10-45  | 40-80                                | 35-75  | 25-50  | 15-30 | 20-30           | 5-10                     |
|                             | 25-47 | Very cobbly<br>sandy loam,<br>very cobbly<br>fine sandy<br>loam                                      | GC-GM, SC-SM   | A-2      | 0-15      | 10-45  | 40-80                                | 35-75  | 25-50  | 15-30 | 20-30           | 5-10                     |
|                             | 47-62 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly sandy<br>clay loam                               | SC, GC         | A-6, A-2 | 0-15      | 10-45  | 40-80                                | 35-75  | 25-65  | 15-40 | 30-40           | 10-20                    |
|                             | 62-80 | Very gravelly<br>sandy clay<br>loam, very<br>cobbly sandy<br>clay loam                               | SC, GC         | A-6, A-2 | 0-15      | 10-45  | 40-80                                | 35-75  | 25-65  | 15-40 | 30-40           | 10-20                    |
| Fewkes-----                 | 0-12  | Gravelly loam                                                                                        | CL, SC, GC     | A-6      | 0         | 0-5    | 60-80                                | 55-75  | 45-65  | 35-55 | 30-35           | 10-15                    |
|                             | 12-17 | Clay loam                                                                                            | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95  | 60-80 | 35-40           | 15-20                    |
|                             | 17-22 | Clay loam,<br>gravelly clay<br>loam                                                                  | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95  | 60-80 | 35-40           | 15-20                    |
|                             | 22-28 | Clay loam,<br>gravelly clay<br>loam                                                                  | CL, GC         | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95  | 35-80 | 35-40           | 15-20                    |
|                             | 28-40 | Clay loam,<br>gravelly clay<br>loam                                                                  | SC, GC, CL     | A-6      | 0         | 0-10   | 60-100                               | 55-100 | 45-95  | 35-80 | 35-40           | 15-20                    |
|                             | 40-50 | Clay loam,<br>gravelly clay<br>loam, gravelly<br>loam, loam                                          | CL, GC, SC     | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90  | 35-75 | 30-40           | 10-20                    |
|                             | 50-60 | Gravelly clay<br>loam, clay<br>loam, gravelly<br>loam, loam                                          | CL, GC, SC     | A-6      | 0         | 0-15   | 60-100                               | 55-100 | 45-90  | 35-75 | 30-40           | 10-20                    |
| 154:                        |       |                                                                                                      |                |          |           |        |                                      |        |        |       |                 |                          |
| Manila-----                 | 0-4   | Loam                                                                                                 | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 4-15  | Loam                                                                                                 | CL             | A-6      | 0         | 0-5    | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 15-22 | Clay loam, clay                                                                                      | CH             | A-7      | 0         | 0-5    | 85-100                               | 80-100 | 75-100 | 60-90 | 50-65           | 30-40                    |
|                             | 22-40 | Clay, clay loam                                                                                      | CH             | A-7      | 0         | 0-5    | 85-100                               | 80-100 | 75-100 | 60-90 | 50-65           | 30-40                    |
|                             | 40-46 | Gravelly clay,<br>clay loam,<br>clay                                                                 | GC, CH, SC     | A-7      | 0         | 0-10   | 60-100                               | 55-100 | 45-100 | 35-90 | 50-65           | 30-40                    |
|                             | 46-60 | Clay, clay<br>loam, gravelly<br>clay loam                                                            | SC, GC, CH     | A-7      | 0         | 0-10   | 60-100                               | 55-100 | 45-100 | 35-90 | 50-65           | 30-40                    |
| Ant Flat-----               | 0-13  | Loam                                                                                                 | CL             | A-6      | 0         | 0      | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 13-19 | Clay loam                                                                                            | CL             | A-6      | 0         | 0      | 90-100                               | 85-100 | 75-90  | 60-80 | 35-40           | 15-20                    |
|                             | 19-30 | Clay                                                                                                 | CH             | A-7      | 0         | 0      | 95-100                               | 90-100 | 80-100 | 70-90 | 55-65           | 35-40                    |
|                             | 30-45 | Clay loam                                                                                            | CL             | A-6      | 0         | 0      | 90-100                               | 85-100 | 75-95  | 60-80 | 35-40           | 15-20                    |
|                             | 45-60 | Clay loam                                                                                            | CL             | A-6      | 0         | 0      | 90-100                               | 80-100 | 70-95  | 55-80 | 35-40           | 15-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                              | Classification |        | Fragments |        | Percentage passing<br>sieve number-- |        |        |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|-------------------------------------------|----------------|--------|-----------|--------|--------------------------------------|--------|--------|-------|-----------------|--------------------------|
|                             |       |                                           | Unified        | AASHTO | >10       | 3-10   |                                      |        |        |       |                 |                          |
|                             |       |                                           |                |        | inches    | inches | 4                                    | 10     | 40     | 200   |                 |                          |
|                             | In.   |                                           |                |        | Pct.      | Pct.   |                                      |        |        |       | Pct.            |                          |
| 155:<br>Manila-----         | 0-4   | Loam                                      | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 4-15  | Loam                                      | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 15-22 | Clay loam, clay                           | CH             | A-7    | 0         | 0-5    | 85-100                               | 80-100 | 75-100 | 60-90 | 50-65           | 30-40                    |
|                             | 22-40 | Clay, clay loam                           | CH             | A-7    | 0         | 0-5    | 85-100                               | 80-100 | 75-100 | 60-90 | 50-65           | 30-40                    |
|                             | 40-46 | Gravelly clay,<br>clay loam,<br>clay      | GC, CH, SC     | A-7    | 0         | 0-10   | 60-100                               | 55-100 | 45-100 | 35-90 | 50-65           | 30-40                    |
|                             | 46-60 | Clay, clay<br>loam, gravelly<br>clay loam | SC, GC, CH     | A-7    | 0         | 0-10   | 60-100                               | 55-100 | 45-100 | 35-90 | 50-65           | 30-40                    |
| Ant Flat-----               | 0-13  | Loam                                      | CL             | A-6    | 0         | 0      | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 13-19 | Clay loam                                 | CL             | A-6    | 0         | 0      | 90-100                               | 85-100 | 75-90  | 60-80 | 35-40           | 15-20                    |
|                             | 19-30 | Clay                                      | CH             | A-7    | 0         | 0      | 95-100                               | 90-100 | 80-100 | 70-90 | 55-65           | 35-40                    |
|                             | 30-45 | Clay loam                                 | CL             | A-6    | 0         | 0      | 90-100                               | 85-100 | 75-95  | 60-80 | 35-40           | 15-20                    |
|                             | 45-60 | Clay loam                                 | CL             | A-6    | 0         | 0      | 90-100                               | 80-100 | 70-95  | 55-80 | 35-40           | 15-20                    |
| 156:<br>Manila-----         | 0-4   | Loam                                      | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 4-15  | Loam                                      | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 15-22 | Clay loam, clay                           | CH             | A-7    | 0         | 0-5    | 85-100                               | 80-100 | 75-100 | 60-90 | 50-65           | 30-40                    |
|                             | 22-40 | Clay, clay loam                           | CH             | A-7    | 0         | 0-5    | 85-100                               | 80-100 | 75-100 | 60-90 | 50-65           | 30-40                    |
|                             | 40-46 | Gravelly clay,<br>clay loam,<br>clay      | GC, CH, SC     | A-7    | 0         | 0-10   | 60-100                               | 55-100 | 45-100 | 35-90 | 50-65           | 30-40                    |
|                             | 46-60 | Clay, clay<br>loam, gravelly<br>clay loam | SC, GC, CH     | A-7    | 0         | 0-10   | 60-100                               | 55-100 | 45-100 | 35-90 | 50-65           | 30-40                    |
| Harter-----                 | 0-5   | Gravelly loam                             | GC, SC         | A-6    | 0         | 0-5    | 60-80                                | 55-75  | 45-65  | 35-50 | 30-35           | 10-15                    |
|                             | 5-12  | Gravelly loam                             | GC, SC         | A-6    | 0         | 0-5    | 60-80                                | 55-75  | 45-65  | 35-50 | 30-35           | 10-15                    |
|                             | 12-19 | Gravelly loam                             | GC, SC         | A-6    | 0         | 0-5    | 60-80                                | 55-75  | 45-65  | 35-50 | 30-35           | 10-15                    |
|                             | 19-24 | Gravelly clay<br>loam                     | GC, SC, CH     | A-7    | 0         | 0-5    | 60-80                                | 55-75  | 45-65  | 35-55 | 50-55           | 30-35                    |
|                             | 24-33 | Gravelly clay                             | CH, GC, SC     | A-7    | 0         | 0-10   | 60-80                                | 55-75  | 50-70  | 45-65 | 50-65           | 35-40                    |
|                             | 33-60 | Gravelly clay                             | CH, GC, SC     | A-7    | 0         | 0-10   | 60-80                                | 55-75  | 50-70  | 45-65 | 55-65           | 35-40                    |
| 157:<br>Manila-----         | 0-4   | Loam                                      | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 4-15  | Loam                                      | CL             | A-6    | 0         | 0-5    | 85-100                               | 80-100 | 70-90  | 55-75 | 30-35           | 10-15                    |
|                             | 15-22 | Clay loam, clay                           | CH             | A-7    | 0         | 0-5    | 85-100                               | 80-100 | 75-100 | 60-90 | 50-65           | 30-40                    |
|                             | 22-40 | Clay, clay loam                           | CH             | A-7    | 0         | 0-5    | 85-100                               | 80-100 | 75-100 | 60-90 | 50-65           | 30-40                    |
|                             | 40-46 | Gravelly clay,<br>clay loam,<br>clay      | GC, CH, SC     | A-7    | 0         | 0-10   | 60-100                               | 55-100 | 45-100 | 35-90 | 50-65           | 30-40                    |
|                             | 46-60 | Clay, clay<br>loam, gravelly<br>clay loam | SC, GC, CH     | A-7    | 0         | 0-10   | 60-100                               | 55-100 | 45-100 | 35-90 | 50-65           | 30-40                    |



Table 15.--Engineering index properties--continued

[illegible]

| Map symbol<br>and soil name | Depth | USDA texture                             | Classification      |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|------------------------------------------|---------------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                          | Unified             | AASHTO   | >10       | 3-10   |                                      |        |       |       |                 |                          |
|                             |       |                                          |                     |          | inches    | inches | 4                                    | 10     | 40    | 200   |                 |                          |
|                             | In.   |                                          |                     |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 159:<br>Parkcity-----       | 0-5   | Gravelly loam                            | CL-ML, SC-SM, GC-GM | A-4      | 0         | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 5-19  | Gravelly loam                            | CL-ML, SC-SM, GC-GM | A-4      | 0         | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 19-36 | Very cobbly loam                         | SC-SM, GC-GM        | A-4, A-2 | 0-10      | 20-45  | 60-80                                | 55-75  | 45-65 | 30-50 | 20-30           | 5-10                     |
|                             | 36-60 | Very cobbly loam, very cobbly sandy loam | SC-SM, GC-GM        | A-4, A-2 | 0-10      | 20-45  | 60-80                                | 55-75  | 30-65 | 15-50 | 20-30           | 5-10                     |
| Dromedary-----              | 0-6   | Gravelly loam                            | SC-SM, GC-GM        | A-4      | 0-5       | 0-10   | 65-85                                | 60-80  | 50-70 | 40-60 | 25-30           | 5-10                     |
|                             | 6-22  | Very cobbly sandy loam                   | SC-SM, GC-GM        | A-2      | 0-10      | 30-40  | 60-80                                | 55-75  | 30-50 | 15-30 | 20-25           | 5-10                     |
|                             | 22-44 | Very cobbly sandy clay loam              | SC, GC              | A-6, A-2 | 0-10      | 30-40  | 60-80                                | 55-75  | 45-65 | 20-40 | 35-40           | 15-20                    |
|                             | 44-51 | Very cobbly sandy clay loam              | SC, GC              | A-6, A-2 | 0-10      | 30-40  | 60-80                                | 55-75  | 45-65 | 20-40 | 35-40           | 15-20                    |
|                             | 51-60 | Very cobbly sandy clay loam              | SC, GC              | A-6, A-2 | 0-10      | 30-40  | 60-80                                | 55-75  | 45-65 | 20-40 | 35-40           | 15-20                    |
| 160:<br>Parkcity-----       | 0-5   | Gravelly loam                            | CL-ML, SC-SM, GC-GM | A-4      | 0         | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 5-19  | Gravelly loam                            | CL-ML, SC-SM, GC-GM | A-4      | 0         | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 19-36 | Very cobbly loam                         | SC-SM, GC-GM        | A-4, A-2 | 0-10      | 20-45  | 60-80                                | 55-75  | 45-65 | 30-50 | 20-30           | 5-10                     |
|                             | 36-60 | Very cobbly loam, very cobbly sandy loam | SC-SM, GC-GM        | A-4, A-2 | 0-10      | 20-45  | 60-80                                | 55-75  | 30-65 | 15-50 | 20-30           | 5-10                     |
| Dromedary-----              | 0-6   | Gravelly loam                            | SC-SM, GC-GM        | A-4      | 0-5       | 0-10   | 65-85                                | 60-80  | 50-70 | 40-60 | 25-30           | 5-10                     |
|                             | 6-22  | Very cobbly sandy loam                   | SC-SM, GC-GM        | A-2      | 0-10      | 30-40  | 60-80                                | 55-75  | 30-50 | 15-30 | 20-25           | 5-10                     |
|                             | 22-44 | Very cobbly sandy clay loam              | SC, GC              | A-6, A-2 | 0-10      | 30-40  | 60-80                                | 55-75  | 45-65 | 20-40 | 35-40           | 15-20                    |
|                             | 44-51 | Very cobbly sandy clay loam              | SC, GC              | A-6, A-2 | 0-10      | 30-40  | 60-80                                | 55-75  | 45-65 | 20-40 | 35-40           | 15-20                    |
|                             | 51-60 | Very cobbly sandy clay loam              | SC, GC              | A-6, A-2 | 0-10      | 30-40  | 60-80                                | 55-75  | 45-65 | 20-40 | 35-40           | 15-20                    |
| 161:<br>Pits, Gravel----    | ---   | ---                                      | ---                 | ---      | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 162:<br>Richsum-----        | 0-2   | Silt loam                                | CL                  | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 30-35           | 10-15                    |
|                             | 2-14  | Loam, silt loam                          | CL                  | A-6      | 0         | 0      | 85-100                               | 80-100 | 70-95 | 55-80 | 30-35           | 10-15                    |
|                             | 14-23 | Silt loam, loam                          | CL                  | A-6      | 0         | 0      | 85-100                               | 80-100 | 70-95 | 55-80 | 30-35           | 10-15                    |
|                             | 23-32 | Silt loam, loam                          | CL                  | A-6      | 0         | 0      | 85-100                               | 80-100 | 70-95 | 55-80 | 30-35           | 10-15                    |
|                             | 32-52 | Silt loam, gravelly silt loam, loam      | SC, GC, CL          | A-6      | 0         | 0      | 60-100                               | 55-100 | 50-95 | 45-80 | 30-35           | 10-15                    |
|                             | 52-60 | Bedrock                                  |                     |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                               | Classification         |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|--------------------------------------------|------------------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                            | Unified                | AASHTO   | >10       | 3-10   | 4                                    | 10     | 40    | 200   |                 |                          |
|                             |       |                                            |                        |          | inches    | inches |                                      |        |       |       |                 |                          |
|                             | In.   |                                            |                        |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 162:<br>Heiners-----        | 0-3   | Gravelly loam                              | CL-ML, GC-GM,<br>SC-SM | A-4      | 0         | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 3-8   | Gravelly loam                              | GC-GM, SC-SM           | A-4      | 0         | 0-40   | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 8-12  | Very gravelly<br>loam, very<br>cobbly loam | GC-GM, SC-SM           | A-2, A-4 | 0-15      | 5-45   | 40-80                                | 35-75  | 30-65 | 20-50 | 20-30           | 5-10                     |
|                             | 12-19 | Very gravelly<br>loam, very<br>cobbly loam | GC-GM, SC-SM           | A-2, A-4 | 0-15      | 5-45   | 40-80                                | 35-75  | 30-65 | 20-50 | 20-30           | 5-10                     |
|                             | 19-29 | Bedrock                                    |                        |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 163:<br>Richsum-----        | 0-2   | Silt loam                                  | CL                     | A-6      | 0         | 0      | 85-100                               | 80-100 | 75-95 | 60-80 | 30-35           | 10-15                    |
|                             | 2-14  | Loam, silt loam                            | CL                     | A-6      | 0         | 0      | 85-100                               | 80-100 | 70-95 | 55-80 | 30-35           | 10-15                    |
|                             | 14-23 | Silt loam, loam                            | CL                     | A-6      | 0         | 0      | 85-100                               | 80-100 | 70-95 | 55-80 | 30-35           | 10-15                    |
|                             | 23-32 | Silt loam, loam                            | CL                     | A-6      | 0         | 0      | 85-100                               | 80-100 | 70-95 | 55-80 | 30-35           | 10-15                    |
|                             | 32-52 | Silt loam,<br>gravelly silt<br>loam, loam  | SC, GC, CL             | A-6      | 0         | 0      | 60-100                               | 55-100 | 50-95 | 45-80 | 30-35           | 10-15                    |
|                             | 52-60 | Bedrock                                    |                        |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Heiners-----                | 0-3   | Gravelly loam                              | CL-ML, GC-GM,<br>SC-SM | A-4      | 0         | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 3-8   | Gravelly loam                              | GC-GM, SC-SM           | A-4      | 0         | 0-40   | 60-80                                | 55-75  | 45-65 | 35-55 | 20-30           | 5-10                     |
|                             | 8-12  | Very gravelly<br>loam, very<br>cobbly loam | GC-GM, SC-SM           | A-2, A-4 | 0-15      | 5-45   | 40-80                                | 35-75  | 30-65 | 20-50 | 20-30           | 5-10                     |
|                             | 12-19 | Very gravelly<br>loam, very<br>cobbly loam | GC-GM, SC-SM           | A-2, A-4 | 0-15      | 5-45   | 40-80                                | 35-75  | 30-65 | 20-50 | 20-30           | 5-10                     |
|                             | 19-29 | Bedrock                                    |                        |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 164:<br>Rock outcrop----    | ---   | ---                                        | ---                    | ---      | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 165:<br>Rock outcrop----    | ---   | ---                                        | ---                    | ---      | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Starley Family--            | 0-6   | Very cobbly<br>loam                        | SC, GC                 | A-6, A-2 | 0-15      | 20-45  | 60-80                                | 55-75  | 45-65 | 30-50 | 30-35           | 10-15                    |
|                             | 6-15  | Extremely<br>cobbly loam                   | SC, GC                 | A-6, A-2 | 0-20      | 30-55  | 45-65                                | 40-60  | 35-55 | 25-45 | 30-35           | 10-15                    |
|                             | 15-19 | Extremely<br>cobbly loam                   | SC, GC                 | A-6, A-2 | 0-20      | 30-55  | 45-65                                | 40-60  | 35-55 | 25-45 | 30-35           | 10-15                    |
|                             | 19-29 | Bedrock                                    |                        |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 166:<br>Sessions-----       | 0-8   | Loam                                       | CL                     | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 8-15  | Clay loam                                  | CL                     | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 15-48 | Clay                                       | CH                     | A-7      | 0         | 0-10   | 85-100                               | 80-100 | 75-95 | 65-85 | 55-60           | 30-35                    |
|                             | 48-52 | Gravelly clay<br>loam                      | CH, GC, SC,<br>CL      | A-7      | 0         | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 45-55           | 25-35                    |
|                             | 52-60 | Gravelly clay<br>loam                      | CH, GC, SC,<br>CL      | A-7      | 0         | 0-10   | 60-80                                | 55-75  | 45-65 | 35-55 | 45-55           | 25-35                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                  | Classification    |          | Fragments     |                | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|-----------------------------------------------|-------------------|----------|---------------|----------------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                               | Unified           | AASHTO   | >10<br>inches | 3-10<br>inches | 4                                    | 10     | 40    | 200   |                 |                          |
|                             | In.   |                                               |                   |          | Pct.          | Pct.           |                                      |        |       |       | Pct.            |                          |
| 166:<br>Haydenfork-----     | 0-3   | Slightly<br>decomposed<br>plant material      |                   |          | 0             | 0              | ---                                  | ---    | ---   | ---   | ---             | ---                      |
|                             | 3-9   | Clay loam                                     | CL                | A-6      | 0             | 0-5            | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 9-17  | Clay loam                                     | CL                | A-6      | 0             | 0-5            | 85-100                               | 80-100 | 70-95 | 60-80 | 35-40           | 15-20                    |
|                             | 17-21 | Clay loam                                     | CL                | A-6      | 0             | 0-5            | 85-100                               | 80-100 | 70-95 | 60-80 | 35-40           | 15-20                    |
|                             | 21-25 | Clay loam                                     | CL                | A-6      | 0             | 0-5            | 85-100                               | 80-100 | 70-95 | 60-80 | 35-40           | 15-20                    |
|                             | 25-36 | Loam, sandy<br>clay loam                      | CL, SC            | A-6      | 0             | 0-5            | 85-100                               | 80-100 | 70-90 | 35-75 | 30-35           | 10-15                    |
|                             | 36-55 | Loam, sandy<br>clay loam                      | SC, CL            | A-6      | 0             | 0-5            | 85-100                               | 80-100 | 70-90 | 35-75 | 30-35           | 10-15                    |
|                             | 55-63 | Gravelly loam,<br>gravelly sandy<br>clay loam | CL, SC, GC        | A-6, A-2 | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 20-55 | 30-35           | 10-15                    |
| 167:<br>Sessions-----       | 0-8   | Loam                                          | CL                | A-6      | 0             | 0-10           | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 8-15  | Clay loam                                     | CL                | A-6      | 0             | 0-10           | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 15-48 | Clay                                          | CH                | A-7      | 0             | 0-10           | 85-100                               | 80-100 | 75-95 | 65-85 | 55-60           | 30-35                    |
|                             | 48-52 | Gravelly clay<br>loam                         | CH, GC, SC,<br>CL | A-7      | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 45-55           | 25-35                    |
|                             | 52-60 | Gravelly clay<br>loam                         | CH, GC, SC,<br>CL | A-7      | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 45-55           | 25-35                    |
| Skutum-----                 | 0-5   | Loam                                          | CL                | A-6      | 0             | 0-5            | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 5-17  | Loam                                          | CL                | A-6      | 0             | 0-5            | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 17-32 | Gravelly clay,<br>gravelly clay<br>loam       | SC, GC, CH        | A-7      | 0             | 0-5            | 60-80                                | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 32-44 | Gravelly clay,<br>gravelly clay<br>loam       | CH, SC, GC        | A-7      | 0             | 0-5            | 60-80                                | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 44-48 | Gravelly clay,<br>gravelly clay<br>loam       | CH, SC, GC        | A-7      | 0             | 0-5            | 60-80                                | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 48-56 | Gravelly sandy<br>loam                        | SC-SM, GC-GM      | A-2      | 0             | 0-10           | 60-80                                | 55-75  | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 56-60 | Bedrock                                       |                   |          | ---           | ---            | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| 168:<br>Sessions-----       | 0-8   | Loam                                          | CL                | A-6      | 0             | 0-10           | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 8-15  | Clay loam                                     | CL                | A-6      | 0             | 0-10           | 85-100                               | 80-100 | 75-95 | 60-80 | 35-40           | 15-20                    |
|                             | 15-48 | Clay                                          | CH                | A-7      | 0             | 0-10           | 85-100                               | 80-100 | 75-95 | 65-85 | 55-60           | 30-35                    |
|                             | 48-52 | Gravelly clay<br>loam                         | CH, GC, SC,<br>CL | A-7      | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 45-55           | 25-35                    |
|                             | 52-60 | Gravelly clay<br>loam                         | CH, GC, SC,<br>CL | A-7      | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 45-55           | 25-35                    |
| Uinta-----                  | 0-13  | Cobbly sandy<br>loam                          | SC-SM             | A-2      | 0-5           | 10-30          | 75-95                                | 70-90  | 45-65 | 20-35 | 20-30           | 5-10                     |
|                             | 13-23 | Gravelly sandy<br>loam                        | GC-GM, SC-SM      | A-2      | 0             | 0-10           | 60-80                                | 55-75  | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 23-35 | Gravelly sandy<br>clay loam                   | GC, SC            | A-6, A-2 | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 20-40 | 35-40           | 15-20                    |
|                             | 35-50 | Gravelly clay<br>loam                         | SC, GC, CL        | A-6      | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 50-60 | Gravelly clay<br>loam                         | SC, GC, CL        | A-6      | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                            | Classification |        | Fragments |        | Percentage passing |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|-----------------------------------------|----------------|--------|-----------|--------|--------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                         |                |        | >10       | 3-10   | sieve number--     |        |       |       |                 |                          |
|                             |       |                                         |                |        | inches    | inches | 4                  | 10     | 40    | 200   |                 |                          |
|                             | In.   |                                         | Unified        | AASHTO | Pct.      | Pct.   |                    |        |       |       | Pct.            |                          |
| 169:<br>Skutum-----         | 0-5   | Loam                                    | CL             | A-6    | 0         | 0-5    | 85-100             | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 5-17  | Loam                                    | CL             | A-6    | 0         | 0-5    | 85-100             | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 17-32 | Gravelly clay,<br>gravelly clay<br>loam | CH, SC, GC     | A-7    | 0         | 0-5    | 60-80              | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 32-44 | Gravelly clay,<br>gravelly clay<br>loam | CH, SC, GC     | A-7    | 0         | 0-5    | 60-80              | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 44-48 | Gravelly clay,<br>gravelly clay<br>loam | CH, SC, GC     | A-7    | 0         | 0-5    | 60-80              | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 48-56 | Gravelly sandy<br>loam                  | SC-SM, GC-GM   | A-2    | 0         | 0-10   | 60-80              | 55-75  | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 56-60 | Bedrock                                 |                |        | ---       | ---    | ---                | ---    | ---   | ---   | ---             | ---                      |
| 170:<br>Skutum-----         | 0-5   | Loam                                    | CL             | A-6    | 0         | 0-5    | 85-100             | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 5-17  | Loam                                    | CL             | A-6    | 0         | 0-5    | 85-100             | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 17-32 | Gravelly clay,<br>gravelly clay<br>loam | CH, SC, GC     | A-7    | 0         | 0-5    | 60-80              | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 32-44 | Gravelly clay,<br>gravelly clay<br>loam | CH, SC, GC     | A-7    | 0         | 0-5    | 60-80              | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 44-48 | Gravelly clay,<br>gravelly clay<br>loam | CH, SC, GC     | A-7    | 0         | 0-5    | 60-80              | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 48-56 | Gravelly sandy<br>loam                  | SC-SM, GC-GM   | A-2    | 0         | 0-10   | 60-80              | 55-75  | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 56-60 | Bedrock                                 |                |        | ---       | ---    | ---                | ---    | ---   | ---   | ---             | ---                      |
| 171:<br>Skutum-----         | 0-5   | Loam                                    | CL             | A-6    | 0         | 0-5    | 85-100             | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 5-17  | Loam                                    | CL             | A-6    | 0         | 0-5    | 85-100             | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 17-32 | Gravelly clay,<br>gravelly clay<br>loam | CH, SC, GC     | A-7    | 0         | 0-5    | 60-80              | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 32-44 | Gravelly clay,<br>gravelly clay<br>loam | CH, SC, GC     | A-7    | 0         | 0-5    | 60-80              | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 44-48 | Gravelly clay,<br>gravelly clay<br>loam | CH, SC, GC     | A-7    | 0         | 0-5    | 60-80              | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 48-56 | Gravelly sandy<br>loam                  | SC-SM, GC-GM   | A-2    | 0         | 0-10   | 60-80              | 55-75  | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 56-60 | Bedrock                                 |                |        | ---       | ---    | ---                | ---    | ---   | ---   | ---             | ---                      |
| 172:<br>Skutum-----         | 0-5   | Loam                                    | CL             | A-6    | 0         | 0-5    | 85-100             | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 5-17  | Loam                                    | CL             | A-6    | 0         | 0-5    | 85-100             | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 17-32 | Gravelly clay,<br>gravelly clay<br>loam | CH, SC, GC     | A-7    | 0         | 0-5    | 60-80              | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 32-44 | Gravelly clay,<br>gravelly clay<br>loam | CH, SC, GC     | A-7    | 0         | 0-5    | 60-80              | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 44-48 | Gravelly clay,<br>gravelly clay<br>loam | CH, SC, GC     | A-7    | 0         | 0-5    | 60-80              | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 48-56 | Gravelly sandy<br>loam                  | SC-SM, GC-GM   | A-2    | 0         | 0-10   | 60-80              | 55-75  | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 56-60 | Bedrock                                 |                |        | ---       | ---    | ---                | ---    | ---   | ---   | ---             | ---                      |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                     | Classification       |          | Fragments     |                | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|--------------------------------------------------|----------------------|----------|---------------|----------------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                  | Unified              | AASHTO   | >10<br>inches | 3-10<br>inches | 4                                    | 10     | 40    | 200   |                 |                          |
|                             | In.   |                                                  |                      |          | Pct.          | Pct.           |                                      |        |       |       | Pct.            |                          |
| 172:<br>Uinta-----          | 0-13  | Cobbly sandy loam                                | SC-SM                | A-2      | 0-5           | 10-30          | 75-95                                | 70-90  | 45-65 | 20-35 | 20-30           | 5-10                     |
|                             | 13-23 | Gravelly sandy loam                              | GC-GM, SC-SM         | A-2      | 0             | 0-10           | 60-80                                | 55-75  | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 23-35 | Gravelly sandy clay loam                         | GC, SC               | A-6, A-2 | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 20-40 | 35-40           | 15-20                    |
|                             | 35-50 | Gravelly clay loam                               | SC, GC, CL           | A-6      | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 50-60 | Gravelly clay loam                               | SC, GC, CL           | A-6      | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
| 173:<br>Skutum-----         | 0-5   | Loam                                             | CL                   | A-6      | 0             | 0-5            | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 5-17  | Loam                                             | CL                   | A-6      | 0             | 0-5            | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 17-32 | Gravelly clay, gravelly clay loam                | CH, SC, GC           | A-7      | 0             | 0-5            | 60-80                                | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 32-44 | Gravelly clay, gravelly clay loam                | CH, SC, GC           | A-7      | 0             | 0-5            | 60-80                                | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 44-48 | Gravelly clay, gravelly clay loam                | CH, SC, GC           | A-7      | 0             | 0-5            | 60-80                                | 55-75  | 45-70 | 35-65 | 50-60           | 30-35                    |
|                             | 48-56 | Gravelly sandy loam                              | SC-SM, GC-GM         | A-2      | 0             | 0-10           | 60-80                                | 55-75  | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 56-60 | Bedrock                                          |                      |          | ---           | ---            | ---                                  | ---    | ---   | ---   | ---             | ---                      |
| Uinta-----                  | 0-13  | Cobbly sandy loam                                | SC-SM                | A-2      | 0-5           | 10-30          | 75-95                                | 70-90  | 45-65 | 20-35 | 20-30           | 5-10                     |
|                             | 13-23 | Gravelly sandy loam                              | GC-GM, SC-SM         | A-2      | 0             | 0-10           | 60-80                                | 55-75  | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 23-35 | Gravelly sandy clay loam                         | GC, SC               | A-6, A-2 | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 20-40 | 35-40           | 15-20                    |
|                             | 35-50 | Gravelly clay loam                               | SC, GC, CL           | A-6      | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 50-60 | Gravelly clay loam                               | SC, GC, CL           | A-6      | 0             | 0-10           | 60-80                                | 55-75  | 45-65 | 35-55 | 35-40           | 15-20                    |
| 174:<br>Snyderville----     | 0-10  | Cobbly loam                                      | CL, SC, GC           | A-6      | 0-10          | 10-30          | 75-95                                | 70-90  | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 10-16 | Cobbly loam                                      | SC, GC, CL           | A-6      | 0-10          | 10-30          | 75-95                                | 70-90  | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 16-28 | Very cobbly loam                                 | SC, GC               | A-6, A-2 | 0-15          | 10-45          | 40-80                                | 35-75  | 25-65 | 15-50 | 30-35           | 10-15                    |
|                             | 28-35 | Very cobbly loamy sand, very gravelly loamy sand | GM, SM               | A-1      | 0-15          | 10-45          | 40-80                                | 35-75  | 15-50 | 5-20  | 10-20           | NP-5                     |
|                             | 35-60 | Extremely cobbly sand, extremely gravelly sand   | GP-GM, SP-SM, SP, GP | A-1      | 0-25          | 10-55          | 20-65                                | 15-60  | 5-40  | 0-10  | 5-15            | NP                       |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                              | Classification          |          | Fragments |        | Percentage passing<br>sieve number-- |       |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|-----------------------------------------------------------|-------------------------|----------|-----------|--------|--------------------------------------|-------|-------|-------|-----------------|--------------------------|
|                             |       |                                                           | Unified                 | AASHTO   | >10       | 3-10   | 4                                    | 10    | 40    | 200   |                 |                          |
|                             |       |                                                           |                         |          | inches    | inches |                                      |       |       |       |                 |                          |
|                             | In.   |                                                           |                         |          | Pct.      | Pct.   |                                      |       |       |       | Pct.            |                          |
| 175:<br>Snyderville-----    | 0-10  | Cobbly loam                                               | CL, SC, GC              | A-6      | 0-10      | 10-30  | 75-95                                | 70-90 | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 10-16 | Cobbly loam                                               | SC, GC, CL              | A-6      | 0-10      | 10-30  | 75-95                                | 70-90 | 60-80 | 45-65 | 30-35           | 10-15                    |
|                             | 16-28 | Very cobbly<br>loam                                       | SC, GC                  | A-6, A-2 | 0-15      | 10-45  | 40-80                                | 35-75 | 25-65 | 15-50 | 30-35           | 10-15                    |
|                             | 28-35 | Very cobbly<br>loamy sand,<br>very gravelly<br>loamy sand | GM, SM                  | A-1      | 0-15      | 10-45  | 40-80                                | 35-75 | 15-50 | 5-20  | 10-20           | NP-5                     |
|                             | 35-60 | Extremely<br>cobbly sand,<br>extremely<br>gravelly sand   | GP-GM, SP-SM,<br>SP, GP | A-1      | 0-25      | 10-55  | 20-65                                | 15-60 | 5-40  | 0-10  | 5-15            | NP                       |
|                             |       |                                                           |                         |          |           |        |                                      |       |       |       |                 |                          |
| 176:<br>Snyderville-----    | 0-10  | Gravelly loam                                             | CL, SC, GC              | A-6      | 0-5       | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-14                    |
|                             | 10-16 | Gravelly loam                                             | CL, SC, GC              | A-6      | 0-5       | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-14                    |
|                             | 16-28 | Very cobbly<br>loam, very<br>gravelly sandy<br>clay loam  | SC, GC                  | A-6, A-2 | 0-15      | 10-45  | 40-80                                | 35-75 | 25-65 | 15-50 | 30-35           | 10-14                    |
|                             | 28-35 | Very cobbly<br>loamy sand,<br>very gravelly<br>loamy sand | GM, SM                  | A-1      | 0-15      | 10-45  | 40-80                                | 35-75 | 15-50 | 5-20  | 10-20           | NP-5                     |
|                             | 35-60 | Extremely<br>cobbly sand,<br>extremely<br>gravelly sand   | GP-GM, SP-SM,<br>SP, GP | A-1      | 0-25      | 15-55  | 20-65                                | 15-60 | 5-40  | 0-10  | 5-15            | NP                       |
|                             |       |                                                           |                         |          |           |        |                                      |       |       |       |                 |                          |
| 177:<br>Uinta-----          | 0-13  | Cobbly sandy<br>loam                                      | SC-SM                   | A-2      | 0-5       | 10-30  | 75-95                                | 70-90 | 45-65 | 20-35 | 20-30           | 5-10                     |
|                             | 13-23 | Gravelly sandy<br>loam                                    | GC-GM, SC-SM            | A-2      | 0         | 0-10   | 60-80                                | 55-75 | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 23-35 | Gravelly sandy<br>clay loam                               | GC, SC                  | A-6, A-2 | 0         | 0-10   | 60-80                                | 55-75 | 45-65 | 20-40 | 35-40           | 15-20                    |
|                             | 35-50 | Gravelly clay<br>loam                                     | SC, GC, CL              | A-6      | 0         | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             | 50-60 | Gravelly clay<br>loam                                     | SC, GC, CL              | A-6      | 0         | 0-10   | 60-80                                | 55-75 | 45-65 | 35-55 | 35-40           | 15-20                    |
|                             |       |                                                           |                         |          |           |        |                                      |       |       |       |                 |                          |



Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                                                     | Classification    |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|--------------------------------------------------------------------------------------------------|-------------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                                                                  | Unified           | AASHTO   | >10       | 3-10   | 4                                    | 10     | 40    | 200   |                 |                          |
|                             |       |                                                                                                  |                   |          | inches    | inches |                                      |        |       |       |                 |                          |
|                             | In.   |                                                                                                  |                   |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 177:<br>Duchesne-----       | 0-4   | Very cobbly<br>sandy loam                                                                        | SC-SM, GC-GM      | A-2      | 0-10      | 20-49  | 60-80                                | 55-75  | 30-50 | 15-30 | 20-30           | 5-10                     |
|                             | 4-11  | Gravelly fine<br>sandy loam,<br>very gravelly<br>sandy loam,<br>very cobbly<br>sandy loam        | SC-SM, GC-GM      | A-4, A-2 | 0-10      | 5-35   | 40-80                                | 35-75  | 15-60 | 10-40 | 20-30           | 5-10                     |
|                             | 11-18 | Gravelly fine<br>sandy loam,<br>very gravelly<br>sandy loam,<br>very cobbly<br>sandy loam        | SC-SM, GC-GM      | A-4, A-2 | 0-10      | 5-35   | 40-80                                | 35-75  | 15-60 | 10-40 | 20-30           | 5-10                     |
|                             | 18-30 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | SC, GC            | A-6, A-2 | 0-10      | 25-45  | 40-80                                | 35-75  | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 30-42 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | SC, GC            | A-6, A-2 | 0-10      | 25-45  | 40-80                                | 35-75  | 25-65 | 15-40 | 30-40           | 10-20                    |
|                             | 42-60 | Very cobbly<br>sandy clay<br>loam, very<br>gravelly loam,<br>very gravelly<br>sandy clay<br>loam | GC, SC            | A-6, A-2 | 0-10      | 25-45  | 40-80                                | 35-75  | 25-65 | 15-40 | 30-40           | 10-20                    |
| 178:<br>Wanship-----        | 0-8   | Loam                                                                                             | CL                | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 8-14  | Loam                                                                                             | CL                | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 14-24 | Loam                                                                                             | CL                | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 24-26 | Very gravelly<br>sand,<br>extremely<br>cobbly loamy<br>sand                                      | SM, SW, GM,<br>GW | A-1      | 0         | 10-50  | 40-60                                | 35-60  | 15-40 | 0-20  | 5-20            | NP                       |
|                             | 26-60 | Very gravelly<br>sand,<br>extremely<br>cobbly loamy<br>sand                                      | SM, SW, GM,<br>GW | A-1      | 0-20      | 10-50  | 40-60                                | 35-60  | 15-40 | 0-20  | 5-20            | NP                       |

Table 15.--Engineering index properties--continued

| Map symbol<br>and soil name | Depth | USDA texture                                                                               | Classification    |          | Fragments |        | Percentage passing<br>sieve number-- |        |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|--------------------------------------------------------------------------------------------|-------------------|----------|-----------|--------|--------------------------------------|--------|-------|-------|-----------------|--------------------------|
|                             |       |                                                                                            | Unified           | AASHTO   | >10       | 3-10   |                                      |        |       |       |                 |                          |
|                             |       |                                                                                            |                   |          | inches    | inches | 4                                    | 10     | 40    | 200   |                 |                          |
|                             | In.   |                                                                                            |                   |          | Pct.      | Pct.   |                                      |        |       |       | Pct.            |                          |
| 179:<br>Wanship-----        | 0-8   | Loam                                                                                       | CL                | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 8-14  | Loam                                                                                       | CL                | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 14-24 | Loam                                                                                       | CL                | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-75 | 30-35           | 10-15                    |
|                             | 24-26 | Very gravelly<br>sand,<br>extremely<br>cobble loamy<br>sand                                | SM, SW, GM,<br>GW | A-1      | 0         | 10-50  | 40-60                                | 35-60  | 15-40 | 0-20  | 5-20            | NP                       |
|                             | 26-60 | Very gravelly<br>sand,<br>extremely<br>cobble loamy<br>sand                                | GW, SM, SW,<br>GM | A-1      | 0-20      | 10-50  | 40-60                                | 35-60  | 15-40 | 0-20  | 5-20            | NP                       |
| Kovich-----                 | 0-9   | Loam                                                                                       | CL                | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-90 | 55-80 | 30-35           | 10-15                    |
|                             | 9-22  | Loam, clay loam                                                                            | CL                | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-95 | 55-80 | 30-40           | 10-20                    |
|                             | 22-29 | Clay loam, loam                                                                            | CL                | A-6      | 0         | 0-10   | 85-100                               | 80-100 | 70-95 | 55-80 | 30-40           | 10-20                    |
|                             | 29-44 | Fine sandy<br>loam, very<br>gravelly sandy<br>clay loam                                    | GC, SC, SC-SM     | A-2, A-4 | 0         | 0-20   | 40-100                               | 35-100 | 25-80 | 15-50 | 20-35           | 5-15                     |
|                             | 44-60 | Very gravelly<br>loamy fine<br>sand, very<br>gravelly sand,<br>very gravelly<br>loamy sand | SM, GM            | A-1      | 0-10      | 0-20   | 40-60                                | 35-55  | 15-35 | 0-15  | ---             | ---                      |
| 180:<br>Yeates Hollow---    | 0-12  | Very stony loam                                                                            | SC, GC            | A-6, A-2 | 15-30     | 15-30  | 60-80                                | 55-75  | 45-65 | 30-50 | 30-35           | 10-15                    |
|                             | 12-25 | Very cobbly<br>clay                                                                        | CH, SC, GC        | A-7      | 0-15      | 20-45  | 60-80                                | 55-75  | 50-70 | 45-65 | 55-65           | 35-40                    |
|                             | 25-37 | Very cobbly<br>clay                                                                        | SC, GC            | A-7      | 0-15      | 20-45  | 60-80                                | 55-75  | 50-70 | 45-65 | 55-65           | 35-40                    |
|                             | 37-43 | Extremely<br>cobble clay<br>loam                                                           | GC                | A-7, A-2 | 0-25      | 30-50  | 45-65                                | 40-60  | 35-55 | 30-50 | 50-55           | 30-35                    |
|                             | 43-53 | Bedrock                                                                                    |                   |          | ---       | ---    | ---                                  | ---    | ---   | ---   | ---             | ---                      |

| Map symbol<br>and soil name | Depth | USDA texture                                                                                  | Classification    |          | Fragments     |                | Percentage passing<br>sieve number-- |       |       |       | Liquid<br>limit | Plas-<br>ticity<br>index |
|-----------------------------|-------|-----------------------------------------------------------------------------------------------|-------------------|----------|---------------|----------------|--------------------------------------|-------|-------|-------|-----------------|--------------------------|
|                             |       |                                                                                               | Unified           | AASHTO   | >10<br>inches | 3-10<br>inches | 4                                    | 10    | 40    | 200   |                 |                          |
|                             |       |                                                                                               |                   |          | Pct.          | Pct.           |                                      |       |       |       |                 |                          |
| 180:<br>Henefer-----        | In.   |                                                                                               |                   |          |               |                |                                      |       |       |       |                 |                          |
|                             | 0-7   | Gravelly loam                                                                                 | CL, GC, SC        | A-6      | 0             | 0-5            | 60-80                                | 55-75 | 45-65 | 35-55 | 30-35           | 10-15                    |
|                             | 7-12  | Gravelly loam                                                                                 | GC, SC            | A-6      | 0             | 0-10           | 60-80                                | 55-75 | 45-65 | 35-50 | 30-35           | 10-15                    |
|                             | 12-21 | Cobbly clay,<br>gravelly clay<br>loam, gravelly<br>silty clay<br>loam                         | CH, GC, SC        | A-7      | 0-5           | 0-30           | 60-95                                | 55-90 | 45-85 | 35-80 | 50-65           | 30-40                    |
|                             | 21-30 | Cobbly clay,<br>gravelly clay<br>loam, gravelly<br>silty clay<br>loam                         | CL, SC, CH        | A-2, A-7 | 0-5           | 0-30           | 60-95                                | 55-90 | 45-85 | 20-80 | 45-65           | 25-40                    |
|                             | 30-37 | Very gravelly<br>clay loam,<br>very cobbly<br>clay loam,<br>very cobbly<br>sandy clay<br>loam | CH, SC, GC,<br>CL | A-2, A-7 | 0-10          | 0-40           | 40-80                                | 35-75 | 30-65 | 20-55 | 45-55           | 25-35                    |
|                             | 37-43 | Very gravelly<br>clay loam,<br>very cobbly<br>clay loam,<br>very cobbly<br>sandy clay<br>loam | CH, SC, GC,<br>CL | A-2, A-7 | 0-10          | 0-40           | 40-80                                | 35-75 | 30-65 | 20-55 | 45-55           | 25-35                    |
|                             | 43-50 | Very cobbly<br>sandy clay<br>loam, very<br>cobbly clay<br>loam, very<br>gravelly clay<br>loam | CH, SC, GC,<br>CL | A-2, A-7 | 0-10          | 0-40           | 40-80                                | 35-75 | 30-65 | 20-55 | 45-55           | 25-35                    |
|                             | 50-60 | Very cobbly<br>sandy clay<br>loam, very<br>cobbly clay<br>loam, very<br>gravelly clay<br>loam | SC, GC, CL        | A-2      | 0-10          | 0-40           | 40-80                                | 35-75 | 30-65 | 20-55 | 35-40           | 15-20                    |
| 181:<br>Yeates Hollow---    | 0-12  | Very stony loam                                                                               | SC, GC            | A-6, A-2 | 15-30         | 15-30          | 60-80                                | 55-75 | 45-65 | 30-50 | 30-35           | 10-15                    |
|                             | 12-25 | Very cobbly<br>clay                                                                           | CH, SC, GC        | A-7      | 0-15          | 20-45          | 60-80                                | 55-75 | 50-70 | 45-65 | 55-65           | 35-40                    |
|                             | 25-37 | Very cobbly<br>clay                                                                           | SC, GC            | A-7      | 0-15          | 20-45          | 60-80                                | 55-75 | 50-70 | 45-65 | 55-65           | 35-40                    |
|                             | 37-43 | Extremely<br>cobbly clay<br>loam                                                              | GC                | A-7, A-2 | 0-25          | 30-50          | 45-65                                | 40-60 | 35-55 | 30-50 | 50-55           | 30-35                    |
|                             | 43-53 | Bedrock                                                                                       |                   |          | ---           | ---            | ---                                  | ---   | ---   | ---   | ---             | ---                      |



Table 16.--Physical properties of the soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 101:<br>Agassiz-----        | 0-6   | ---  | ---  | 18-27 | 1.20-1.40                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-4.0           | .10             | .28 | 1 | 8                                 | 0                                 |
|                             | 6-14  | ---  | ---  | 18-27 | 1.20-1.40                | 0.6-2                       | 0.06-0.11                      | 0.0-2.9                      | 1.0-3.0           | .10             | .32 |   |                                   |                                   |
|                             | 14-24 | ---  | ---  | ---   | ---                      | 0.000-0.002                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Rock outcrop-----           | ---   | ---  | ---  | ---   | ---                      | ---                         | ---                            | ---                          | ---               | ---             | --- | - | ---                               | ---                               |
| 102:<br>Ant Flat-----       | 0-13  | ---  | ---  | 18-24 | 1.10-1.15                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .37             | .43 | 5 | 6                                 | 48                                |
|                             | 13-19 | ---  | ---  | 27-35 | 1.10-1.15                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .37             | .43 |   |                                   |                                   |
|                             | 19-30 | ---  | ---  | 40-55 | 1.15-1.25                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.0-1.0           | .32             | .37 |   |                                   |                                   |
|                             | 30-45 | ---  | ---  | 27-36 | 1.15-1.25                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-0.5           | .43             | .49 |   |                                   |                                   |
|                             | 45-60 | ---  | ---  | 27-36 | 1.15-1.25                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-0.5           | .43             | .49 |   |                                   |                                   |
| 103:<br>Ant Flat-----       | 0-13  | ---  | ---  | 18-24 | 1.10-1.15                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .37             | .43 | 5 | 6                                 | 48                                |
|                             | 13-19 | ---  | ---  | 27-35 | 1.10-1.15                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .37             | .43 |   |                                   |                                   |
|                             | 19-30 | ---  | ---  | 40-55 | 1.15-1.25                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.0-1.0           | .32             | .37 |   |                                   |                                   |
|                             | 30-45 | ---  | ---  | 27-36 | 1.15-1.25                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-0.5           | .43             | .49 |   |                                   |                                   |
|                             | 45-60 | ---  | ---  | 27-36 | 1.15-1.25                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-0.5           | .43             | .49 |   |                                   |                                   |
| 104:<br>Ant Flat-----       | 0-13  | ---  | ---  | 18-24 | 1.10-1.15                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .37             | .43 | 5 | 6                                 | 48                                |
|                             | 13-19 | ---  | ---  | 27-35 | 1.10-1.15                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .37             | .43 |   |                                   |                                   |
|                             | 19-30 | ---  | ---  | 40-55 | 1.15-1.25                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.0-1.0           | .32             | .37 |   |                                   |                                   |
|                             | 30-45 | ---  | ---  | 27-36 | 1.15-1.25                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-0.5           | .43             | .49 |   |                                   |                                   |
|                             | 45-60 | ---  | ---  | 27-36 | 1.15-1.25                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-0.5           | .43             | .49 |   |                                   |                                   |
| 105:<br>Ant Flat-----       | 0-13  | ---  | ---  | 18-24 | 1.10-1.15                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .37             | .43 | 5 | 6                                 | 48                                |
|                             | 13-19 | ---  | ---  | 27-35 | 1.10-1.15                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .37             | .43 |   |                                   |                                   |
|                             | 19-30 | ---  | ---  | 40-55 | 1.15-1.25                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.0-1.0           | .32             | .37 |   |                                   |                                   |
|                             | 30-45 | ---  | ---  | 27-36 | 1.15-1.25                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-0.5           | .43             | .49 |   |                                   |                                   |
|                             | 45-60 | ---  | ---  | 27-36 | 1.15-1.25                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-0.5           | .43             | .49 |   |                                   |                                   |
| Henefer-----                | 0-7   | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .24 | 5 | 7                                 | 38                                |
|                             | 7-12  | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-4.0           | .24             | .28 |   |                                   |                                   |
|                             | 12-21 | ---  | ---  | 35-50 | 1.40-1.50                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 1.0-3.0           | .15             | .28 |   |                                   |                                   |
|                             | 21-30 | ---  | ---  | 27-50 | 1.40-1.50                | 0.2-0.6                     | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
|                             | 30-37 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 37-43 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 43-50 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
| Skutum-----                 | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-8.0           | .20             | .24 | 4 | 6                                 | 48                                |
|                             | 5-17  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-4.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-32 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 32-44 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 44-48 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 48-56 | ---  | ---  | 15-20 | 1.35-1.50                | 0.6-2                       | 0.08-0.09                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 56-60 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 106:<br>Ayoub-----          | 0-6   | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.17                      | 0.0-2.9                      | 3.0-5.0           | .15             | .37 | 2 | 8                                 | 0                                 |
|                             | 6-12  | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 12-18 | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 18-23 | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 23-35 | ---  | ---  | 18-27 | 1.30-1.40                | 0.2-0.6                     | 0.07-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 35-45 | ---  | ---  | ---   | ---                      | 0.000-0.01                  | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 107:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Ayoub-----                  | 0-6   | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.17                      | 0.0-2.9                      | 3.0-5.0           | .15             | .37 | 2 | 8                                 | 0                                 |
|                             | 6-12  | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 12-18 | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 18-23 | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 23-35 | ---  | ---  | 18-27 | 1.30-1.40                | 0.2-0.6                     | 0.07-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 35-45 | ---  | ---  | ---   | ---                      | 0.000-0.01                  | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Dunford-----                | 0-10  | ---  | ---  | 18-27 | 1.15-1.25                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 2 | 7                                 | 38                                |
|                             | 10-21 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-3.0           | .15             | .28 |   |                                   |                                   |
|                             | 21-36 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
|                             | 36-46 | ---  | ---  | ---   | ---                      | 0.000-0.01                  | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Melling-----                | 0-6   | ---  | ---  | 18-24 | 1.25-1.40                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 2.0-5.0           | .05             | .24 | 1 | 8                                 | 0                                 |
|                             | 6-19  | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.09-0.12                      | 3.0-5.9                      | 1.0-3.0           | .10             | .28 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 108:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Ayoub-----                  | 0-6   | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.17                      | 0.0-2.9                      | 3.0-5.0           | .15             | .37 | 2 | 8                                 | 0                                 |
|                             | 6-12  | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 12-18 | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 18-23 | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 23-35 | ---  | ---  | 18-27 | 1.30-1.40                | 0.2-0.6                     | 0.07-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 35-45 | ---  | ---  | ---   | ---                      | 0.000-0.01                  | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Dunford-----                | 0-10  | ---  | ---  | 18-27 | 1.15-1.25                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 2 | 7                                 | 38                                |
|                             | 10-21 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-3.0           | .15             | .28 |   |                                   |                                   |
|                             | 21-36 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
|                             | 36-46 | ---  | ---  | ---   | ---                      | 0.000-0.01                  | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Melling-----                | 0-6   | ---  | ---  | 18-24 | 1.25-1.40                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 2.0-5.0           | .05             | .24 | 1 | 8                                 | 0                                 |
|                             | 6-19  | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.09-0.12                      | 3.0-5.9                      | 1.0-3.0           | .10             | .28 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 109:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Cluff-----                  | 0-4   | ---  | ---  | 18-24 | 1.15-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 2.0-5.0           | .20             | .28 | 3 | 5                                 | 56                                |
|                             | 4-9   | ---  | ---  | 18-24 | 1.15-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-5.0           | .15             | .28 |   |                                   |                                   |
|                             | 9-16  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 16-20 | ---  | ---  | 35-40 | 1.20-1.35                | 0.2-0.6                     | 0.09-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 20-33 | ---  | ---  | 35-40 | 1.20-1.35                | 0.2-0.6                     | 0.09-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 33-54 | ---  | ---  | 40-50 | 1.20-1.35                | 0.2-0.6                     | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 54-60 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 110:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Cluff-----                  | 0-4   | ---  | ---  | 18-24 | 1.15-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 2.0-5.0           | .20             | .28 | 3 | 5                                 | 56                                |
|                             | 4-9   | ---  | ---  | 18-24 | 1.15-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-5.0           | .15             | .28 |   |                                   |                                   |
|                             | 9-16  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 16-20 | ---  | ---  | 35-40 | 1.20-1.35                | 0.2-0.6                     | 0.09-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 20-33 | ---  | ---  | 35-40 | 1.20-1.35                | 0.2-0.6                     | 0.09-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 33-54 | ---  | ---  | 40-50 | 1.20-1.35                | 0.2-0.6                     | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 54-60 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 111:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Crandall-----               | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-5.0           | .15             | .24 | 3 | 6                                 | 48                                |
|                             | 5-14  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-3.0           | .17             | .32 |   |                                   |                                   |
|                             | 14-45 | ---  | ---  | 27-35 | 1.20-1.40                | 0.2-0.6                     | 0.09-0.12                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 45-55 | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .15             | .43 |   |                                   |                                   |
|                             | 55-60 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 112:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Crandall-----               | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-5.0           | .15             | .24 | 3 | 6                                 | 48                                |
|                             | 5-14  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-3.0           | .17             | .32 |   |                                   |                                   |
|                             | 14-45 | ---  | ---  | 27-35 | 1.20-1.40                | 0.2-0.6                     | 0.09-0.12                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 45-55 | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .15             | .43 |   |                                   |                                   |
|                             | 55-60 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Lucky Star-----             | 0-6   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 5.0-10            | .15             | .24 | 5 | 7                                 | 38                                |
|                             | 6-12  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-5.0           | .15             | .28 |   |                                   |                                   |
|                             | 12-25 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 25-47 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 47-62 | ---  | ---  | 20-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 62-80 | ---  | ---  | 20-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| 113:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Crandall-----               | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-5.0           | .15             | .24 | 3 | 6                                 | 48                                |
|                             | 5-14  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-3.0           | .17             | .32 |   |                                   |                                   |
|                             | 14-45 | ---  | ---  | 27-35 | 1.20-1.40                | 0.2-0.6                     | 0.09-0.12                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 45-55 | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .15             | .43 |   |                                   |                                   |
|                             | 55-60 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Lucky Star-----             | 0-6   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 5.0-10            | .15             | .24 | 5 | 7                                 | 38                                |
|                             | 6-12  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-5.0           | .15             | .28 |   |                                   |                                   |
|                             | 12-25 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 25-47 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 47-62 | ---  | ---  | 20-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 62-80 | ---  | ---  | 20-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| Starley Family-----         | 0-6   | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 1.0-4.0           | .05             | .20 | 1 | 8                                 | 0                                 |
|                             | 6-15  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 1.0-2.0           | .05             | .32 |   |                                   |                                   |
|                             | 15-19 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 0.5-1.0           | .05             | .37 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 114:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Crandall-----               | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-5.0           | .15             | .24 | 3 | 6                                 | 48                                |
|                             | 5-14  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-3.0           | .17             | .32 |   |                                   |                                   |
|                             | 14-45 | ---  | ---  | 27-35 | 1.20-1.40                | 0.2-0.6                     | 0.09-0.12                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 45-55 | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .15             | .43 |   |                                   |                                   |
|                             | 55-60 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Starley Family-----         | 0-6   | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 1.0-4.0           | .05             | .20 | 1 | 8                                 | 0                                 |
|                             | 6-15  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 1.0-2.0           | .05             | .32 |   |                                   |                                   |
|                             | 15-19 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 0.5-1.0           | .05             | .37 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Rock outcrop-----           | ---   | ---  | ---  | ---   | ---                      | ---                         | ---                            | ---                          | ---               | ---             | --- | - | ---                               | ---                               |
| 115:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Dastrup-----                | 0-12  | ---  | ---  | 18-27 | 1.20-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-4.0           | .28             | .32 | 5 | 4L                                | 86                                |
|                             | 12-16 | ---  | ---  | 18-35 | 1.25-1.40                | 0.2-0.6                     | 0.11-0.18                      | 0.0-2.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 16-36 | ---  | ---  | 18-35 | 1.25-1.40                | 0.2-0.6                     | 0.11-0.18                      | 0.0-2.9                      | 0.0-0.5           | .28             | .37 |   |                                   |                                   |
|                             | 36-48 | ---  | ---  | 18-35 | 1.25-1.40                | 0.2-0.6                     | 0.11-0.18                      | 0.0-2.9                      | 0.0-0.5           | .28             | .37 |   |                                   |                                   |
|                             | 48-60 | ---  | ---  | 18-35 | 1.25-1.40                | 0.2-0.6                     | 0.11-0.18                      | 0.0-2.9                      | 0.0-0.5           | .28             | .37 |   |                                   |                                   |
| 116:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Dastrup-----                | 0-12  | ---  | ---  | 18-27 | 1.20-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-4.0           | .28             | .32 | 5 | 4L                                | 86                                |
|                             | 12-16 | ---  | ---  | 18-35 | 1.25-1.40                | 0.2-0.6                     | 0.11-0.18                      | 0.0-2.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 16-36 | ---  | ---  | 18-35 | 1.25-1.40                | 0.2-0.6                     | 0.11-0.18                      | 0.0-2.9                      | 0.0-0.5           | .28             | .37 |   |                                   |                                   |
|                             | 36-48 | ---  | ---  | 18-35 | 1.25-1.40                | 0.2-0.6                     | 0.11-0.18                      | 0.0-2.9                      | 0.0-0.5           | .28             | .37 |   |                                   |                                   |
|                             | 48-60 | ---  | ---  | 18-35 | 1.25-1.40                | 0.2-0.6                     | 0.11-0.18                      | 0.0-2.9                      | 0.0-0.5           | .28             | .37 |   |                                   |                                   |



Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 117:<br>Dastrup-----        | 0-12  | ---  | ---  | 18-27 | 1.20-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-4.0           | .28             | .32 | 5 | 4L                                | 86                                |
|                             | 12-16 | ---  | ---  | 18-35 | 1.25-1.40                | 0.2-0.6                     | 0.11-0.18                      | 0.0-2.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 16-36 | ---  | ---  | 18-35 | 1.25-1.40                | 0.2-0.6                     | 0.11-0.18                      | 0.0-2.9                      | 0.0-0.5           | .28             | .37 |   |                                   |                                   |
|                             | 36-48 | ---  | ---  | 18-35 | 1.25-1.40                | 0.2-0.6                     | 0.11-0.18                      | 0.0-2.9                      | 0.0-0.5           | .28             | .37 |   |                                   |                                   |
|                             | 48-60 | ---  | ---  | 18-35 | 1.25-1.40                | 0.2-0.6                     | 0.11-0.18                      | 0.0-2.9                      | 0.0-0.5           | .28             | .37 |   |                                   |                                   |
| 118:<br>Dromedary-----      | 0-6   | ---  | ---  | 18-27 | 1.25-1.40                | 0.6-2                       | 0.12-0.14                      | 0.0-2.9                      | 3.0-5.0           | .17             | .24 | 5 | 7                                 | 38                                |
|                             | 6-22  | ---  | ---  | 15-20 | 1.35-1.50                | 2-6                         | 0.06-0.07                      | 0.0-2.9                      | 0.5-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 22-44 | ---  | ---  | 27-35 | 1.35-1.50                | 0.6-2                       | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 44-51 | ---  | ---  | 27-35 | 1.35-1.50                | 0.6-2                       | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 51-60 | ---  | ---  | 27-35 | 1.35-1.50                | 0.6-2                       | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| Rock outcrop-----           | ---   | ---  | ---  | ---   | ---                      | ---                         | ---                            | ---                          | ---               | ---             | --- | - | ---                               | ---                               |
| 119:<br>Duchesne-----       | 0-4   | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.07                      | 0.0-2.9                      | 4.0-6.0           | .20             | .43 | 5 | 6                                 | 48                                |
|                             | 4-11  | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 4.0-6.0           | .05             | .17 |   |                                   |                                   |
|                             | 11-18 | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 4.0-6.0           | .05             | .17 |   |                                   |                                   |
|                             | 18-30 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 30-42 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 42-60 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| 120:<br>Duchesne-----       | 0-4   | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.07                      | 0.0-2.9                      | 4.0-6.0           | .20             | .43 | 5 | 6                                 | 48                                |
|                             | 4-11  | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 4.0-6.0           | .05             | .17 |   |                                   |                                   |
|                             | 11-18 | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 4.0-6.0           | .05             | .17 |   |                                   |                                   |
|                             | 18-30 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 30-42 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 42-60 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| 121:<br>Duchesne-----       | 0-4   | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.07                      | 0.0-2.9                      | 4.0-6.0           | .20             | .43 | 5 | 8                                 | 0                                 |
|                             | 4-11  | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 4.0-6.0           | .05             | .17 |   |                                   |                                   |
|                             | 11-18 | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 4.0-6.0           | .05             | .17 |   |                                   |                                   |
|                             | 18-30 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 30-42 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 42-60 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| 122:<br>Duchesne-----       | 0-4   | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.07                      | 0.0-2.9                      | 4.0-6.0           | .20             | .43 | 5 | 6                                 | 48                                |
|                             | 4-11  | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 4.0-6.0           | .05             | .17 |   |                                   |                                   |
|                             | 11-18 | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 4.0-6.0           | .05             | .17 |   |                                   |                                   |
|                             | 18-30 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 30-42 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 42-60 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| Haydenfork-----             | 0-3   | ---  | ---  | ---   | 0.15-0.50                | 2-6                         | 0.20-0.25                      | 0.0-2.9                      | 25-75             | .10             | .10 | 5 | 6                                 | 48                                |
|                             | 3-9   | ---  | ---  | 27-35 | 1.20-1.30                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 4.0-7.0           | .15             | .17 |   |                                   |                                   |
|                             | 9-17  | ---  | ---  | 27-35 | 1.20-1.30                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 2.0-5.0           | .24             | .28 |   |                                   |                                   |
|                             | 17-21 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 21-25 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-1.0           | .32             | .37 |   |                                   |                                   |
|                             | 25-36 | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.14-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 36-55 | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.14-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 55-63 | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.15                      | 0.0-2.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
| 123:<br>Dumps, mines-----   | ---   | ---  | ---  | ---   | ---                      | ---                         | ---                            | ---                          | ---               | ---             | --- | - | ---                               | ---                               |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 124:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Dunford-----                | 0-10  | ---  | ---  | 18-27 | 1.15-1.25                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 2 | 7                                 | 38                                |
|                             | 10-21 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-3.0           | .15             | .28 |   |                                   |                                   |
|                             | 21-36 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
|                             | 36-46 | ---  | ---  | ---   | ---                      | 0.000-0.01                  | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Ayoub-----                  | 0-6   | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.17                      | 0.0-2.9                      | 3.0-5.0           | .15             | .37 | 2 | 8                                 | 0                                 |
|                             | 6-12  | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 12-18 | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 18-23 | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 23-35 | ---  | ---  | 18-27 | 1.30-1.40                | 0.2-0.6                     | 0.07-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 35-45 | ---  | ---  | ---   | ---                      | 0.000-0.01                  | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Melling-----                | 0-6   | ---  | ---  | 18-24 | 1.25-1.40                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 2.0-5.0           | .05             | .24 | 1 | 8                                 | 0                                 |
|                             | 6-19  | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.09-0.12                      | 3.0-5.9                      | 1.0-3.0           | .10             | .28 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 125:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Dunford-----                | 0-10  | ---  | ---  | 18-27 | 1.15-1.25                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 2 | 7                                 | 38                                |
|                             | 10-21 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-3.0           | .15             | .28 |   |                                   |                                   |
|                             | 21-36 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
|                             | 36-46 | ---  | ---  | ---   | ---                      | 0.000-0.01                  | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Ayoub-----                  | 0-6   | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.17                      | 0.0-2.9                      | 3.0-5.0           | .15             | .37 | 2 | 8                                 | 0                                 |
|                             | 6-12  | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 12-18 | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 18-23 | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                                   |                                   |
|                             | 23-35 | ---  | ---  | 18-27 | 1.30-1.40                | 0.2-0.6                     | 0.07-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 35-45 | ---  | ---  | ---   | ---                      | 0.000-0.01                  | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Melling-----                | 0-6   | ---  | ---  | 18-24 | 1.25-1.40                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 2.0-5.0           | .05             | .24 | 1 | 8                                 | 0                                 |
|                             | 6-19  | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.09-0.12                      | 3.0-5.9                      | 1.0-3.0           | .10             | .28 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 126:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Echocreek-----              | 0-7   | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 2.0-5.0           | .28             | .28 | 5 | 5                                 | 56                                |
|                             | 7-18  | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 2.0-5.0           | .28             | .28 |   |                                   |                                   |
|                             | 18-26 | ---  | ---  | 18-27 | 1.20-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-3.0           | .37             | .37 |   |                                   |                                   |
|                             | 26-38 | ---  | ---  | 18-27 | 1.25-1.40                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 0.0-1.0           | .43             | .43 |   |                                   |                                   |
|                             | 38-45 | ---  | ---  | 18-27 | 1.25-1.40                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 0.0-1.0           | .43             | .43 |   |                                   |                                   |
|                             | 45-60 | ---  | ---  | 18-27 | 1.25-1.40                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 0.0-1.0           | .43             | .43 |   |                                   |                                   |
| 127:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Echocreek-----              | 0-7   | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 2.0-5.0           | .28             | .28 | 5 | 5                                 | 56                                |
|                             | 7-18  | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 2.0-5.0           | .28             | .28 |   |                                   |                                   |
|                             | 18-26 | ---  | ---  | 18-27 | 1.20-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-3.0           | .37             | .37 |   |                                   |                                   |
|                             | 26-38 | ---  | ---  | 18-27 | 1.25-1.40                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 0.0-1.0           | .43             | .43 |   |                                   |                                   |
|                             | 38-45 | ---  | ---  | 18-27 | 1.25-1.40                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 0.0-1.0           | .43             | .43 |   |                                   |                                   |
|                             | 45-60 | ---  | ---  | 18-27 | 1.25-1.40                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 0.0-1.0           | .43             | .43 |   |                                   |                                   |
| Kovich-----                 | 0-9   | ---  | ---  | 20-27 | 1.30-1.40                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 5.0-10            | .24             | .24 | 4 | 6                                 | 48                                |
|                             | 9-22  | ---  | ---  | 20-35 | 1.30-1.40                | 0.2-0.6                     | 0.14-0.18                      | 3.0-5.9                      | 1.0-5.0           | .28             | .28 |   |                                   |                                   |
|                             | 22-29 | ---  | ---  | 20-35 | 1.30-1.50                | 0.2-0.6                     | 0.14-0.18                      | 3.0-5.9                      | 1.0-5.0           | .28             | .20 |   |                                   |                                   |
|                             | 29-44 | ---  | ---  | 15-25 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .20 |   |                                   |                                   |
|                             | 44-60 | ---  | ---  | 0-10  | 1.50-1.60                | 0.6-2                       | 0.05-0.06                      | 0.0-0.0                      | 0.0-1.0           | .05             | .15 |   |                                   |                                   |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| <b>128:</b>                 |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 6                                 | 48                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| <b>129:</b>                 |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 7                                 | 38                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| <b>130:</b>                 |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 7                                 | 38                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| <b>131:</b>                 |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 7                                 | 38                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| <b>Heiners-----</b>         | 0-3   | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-3.0           | .15             | .28 | 2 | 5                                 | 56                                |
|                             | 3-8   | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-2.0           | .17             | .32 |   |                                   |                                   |
|                             | 8-12  | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 12-19 | ---  | ---  | 15-22 | 1.25-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| <b>132:</b>                 |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 7                                 | 38                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| <b>Hades-----</b>           | 0-3   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 | 5 | 6                                 | 48                                |
|                             | 3-18  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 |   |                                   |                                   |
|                             | 18-33 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 33-44 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 44-60 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 133:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 7                                 | 38                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| Hades-----                  | 0-3   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 | 5 | 6                                 | 48                                |
|                             | 3-18  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 |   |                                   |                                   |
|                             | 18-33 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 33-44 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 44-60 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| 134:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 7                                 | 38                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| Yeates Hollow-----          | 0-12  | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-5.0           | .05             | .20 | 3 | 8                                 | 0                                 |
|                             | 12-25 | ---  | ---  | 40-55 | 1.20-1.45                | 0.06-0.2                    | 0.08-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 25-37 | ---  | ---  | 40-55 | 1.20-1.45                | 0.06-0.2                    | 0.08-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 37-43 | ---  | ---  | 35-40 | 1.20-1.45                | 0.2-0.6                     | 0.07-0.09                      | 0.0-2.9                      | 0.0-1.0           | .05             | .28 |   |                                   |                                   |
|                             | 43-53 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 135:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 7                                 | 38                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| Yeates Hollow-----          | 0-12  | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-5.0           | .05             | .20 | 3 | 8                                 | 0                                 |
|                             | 12-25 | ---  | ---  | 40-55 | 1.20-1.45                | 0.06-0.2                    | 0.08-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 25-37 | ---  | ---  | 40-55 | 1.20-1.45                | 0.06-0.2                    | 0.08-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 37-43 | ---  | ---  | 35-40 | 1.20-1.45                | 0.2-0.6                     | 0.07-0.09                      | 0.0-2.9                      | 0.0-1.0           | .05             | .28 |   |                                   |                                   |
|                             | 43-53 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 136:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Hades-----                  | 0-3   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 | 5 | 6                                 | 48                                |
|                             | 3-18  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 |   |                                   |                                   |
|                             | 18-33 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 33-44 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 44-60 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| Agassiz-----                | 0-6   | ---  | ---  | 18-27 | 1.20-1.40                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-4.0           | .10             | .28 | 1 | 8                                 | 0                                 |
|                             | 6-14  | ---  | ---  | 18-27 | 1.20-1.40                | 0.6-2                       | 0.06-0.11                      | 0.0-2.9                      | 1.0-3.0           | .10             | .32 |   |                                   |                                   |
|                             | 14-24 | ---  | ---  | ---   | ---                      | 0.000-0.002                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Rock outcrop-----           | ---   | ---  | ---  | ---   | ---                      | ---                         | ---                            | ---                          | ---               | ---             | --- | - | ---                               | ---                               |
| 137:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Hades-----                  | 0-3   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 | 5 | 6                                 | 48                                |
|                             | 3-18  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 |   |                                   |                                   |
|                             | 18-33 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 33-44 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 44-60 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 137:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 7                                 | 38                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| 138:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Hades-----                  | 0-3   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 | 5 | 6                                 | 48                                |
|                             | 3-18  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 |   |                                   |                                   |
|                             | 18-33 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 33-44 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 44-60 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 7                                 | 38                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| 139:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Harter-----                 | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .28             | .37 | 5 | 6                                 | 48                                |
|                             | 5-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .28             | .37 |   |                                   |                                   |
|                             | 12-19 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .28             | .37 |   |                                   |                                   |
|                             | 19-24 | ---  | ---  | 35-40 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .24 |   |                                   |                                   |
|                             | 24-33 | ---  | ---  | 35-40 | 1.45-1.55                | 0.06-0.2                    | 0.12-0.15                      | 3.0-5.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 33-60 | ---  | ---  | 45-50 | 1.45-1.55                | 0.06-0.2                    | 0.12-0.15                      | 3.0-5.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
| 140:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Heiners-----                | 0-3   | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-3.0           | .15             | .28 | 2 | 5                                 | 56                                |
|                             | 3-8   | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-2.0           | .17             | .32 |   |                                   |                                   |
|                             | 8-12  | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 12-19 | ---  | ---  | 15-22 | 1.25-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 7                                 | 38                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| 141:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Heiners-----                | 0-3   | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-3.0           | .15             | .28 | 2 | 5                                 | 56                                |
|                             | 3-8   | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-2.0           | .17             | .32 |   |                                   |                                   |
|                             | 8-12  | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 12-19 | ---  | ---  | 15-22 | 1.25-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 7                                 | 38                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 141:<br>Hades-----          | 0-3   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 | 5 | 6                                 | 48                                |
|                             | 3-18  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 |   |                                   |                                   |
|                             | 18-33 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 33-44 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 44-60 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| 142:<br>Henefer-----        | 0-7   | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .24 | 5 | 7                                 | 38                                |
|                             | 7-12  | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-4.0           | .24             | .28 |   |                                   |                                   |
|                             | 12-21 | ---  | ---  | 35-50 | 1.40-1.50                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 1.0-3.0           | .15             | .28 |   |                                   |                                   |
|                             | 21-30 | ---  | ---  | 27-50 | 1.40-1.50                | 0.2-0.6                     | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
|                             | 30-37 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 37-43 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 43-50 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
| Harter-----                 | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .28             | .37 | 5 | 6                                 | 48                                |
|                             | 5-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .28             | .37 |   |                                   |                                   |
|                             | 12-19 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .28             | .37 |   |                                   |                                   |
|                             | 19-24 | ---  | ---  | 35-40 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .24 |   |                                   |                                   |
|                             | 24-33 | ---  | ---  | 35-40 | 1.45-1.55                | 0.06-0.2                    | 0.12-0.15                      | 3.0-5.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 33-60 | ---  | ---  | 45-50 | 1.45-1.55                | 0.06-0.2                    | 0.12-0.15                      | 3.0-5.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
| 143:<br>Horrocks-----       | 0-10  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-5.0           | .05             | .20 | 3 | 7                                 | 38                                |
|                             | 10-19 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 1.0-5.0           | .05             | .20 |   |                                   |                                   |
|                             | 19-32 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-3.0           | .10             | .28 |   |                                   |                                   |
|                             | 32-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 40-59 | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 59-60 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Agassiz-----                | 0-6   | ---  | ---  | 18-27 | 1.20-1.40                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-4.0           | .10             | .28 | 1 | 8                                 | 0                                 |
|                             | 6-14  | ---  | ---  | 18-27 | 1.20-1.40                | 0.6-2                       | 0.06-0.11                      | 0.0-2.9                      | 1.0-3.0           | .10             | .32 |   |                                   |                                   |
|                             | 14-24 | ---  | ---  | ---   | ---                      | 0.000-0.002                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 144:<br>Horrocks-----       | 0-10  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-5.0           | .05             | .20 | 3 | 7                                 | 38                                |
|                             | 10-19 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 1.0-5.0           | .05             | .20 |   |                                   |                                   |
|                             | 19-32 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-3.0           | .10             | .28 |   |                                   |                                   |
|                             | 32-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 40-59 | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 59-60 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Cutoff-----                 | 0-1   | ---  | ---  | 18-27 | 1.20-1.40                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 1.0-2.0           | .10             | .37 | 3 | 6                                 | 48                                |
|                             | 1-9   | ---  | ---  | 18-27 | 1.20-1.40                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 1.0-2.0           | .10             | .37 |   |                                   |                                   |
|                             | 9-16  | ---  | ---  | 18-27 | 1.30-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 16-29 | ---  | ---  | 18-27 | 1.30-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 29-38 | ---  | ---  | 18-27 | 1.30-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 38-48 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 145:<br>Horrocks-----       | 0-10  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-5.0           | .05             | .20 | 3 | 7                                 | 38                                |
|                             | 10-19 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 1.0-5.0           | .05             | .20 |   |                                   |                                   |
|                             | 19-32 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-3.0           | .10             | .28 |   |                                   |                                   |
|                             | 32-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 40-59 | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 59-60 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 145:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Cutoff-----                 | 0-1   | ---  | ---  | 18-27 | 1.20-1.40                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 1.0-2.0           | .10             | .37 | 3 | 6                                 | 48                                |
|                             | 1-9   | ---  | ---  | 18-27 | 1.20-1.40                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 1.0-2.0           | .10             | .37 |   |                                   |                                   |
|                             | 9-16  | ---  | ---  | 18-27 | 1.30-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 16-29 | ---  | ---  | 18-27 | 1.30-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 29-38 | ---  | ---  | 18-27 | 1.30-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 38-48 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 146:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Horrocks-----               | 0-10  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-5.0           | .05             | .20 | 3 | 7                                 | 38                                |
|                             | 10-19 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 1.0-5.0           | .05             | .20 |   |                                   |                                   |
|                             | 19-32 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-3.0           | .10             | .28 |   |                                   |                                   |
|                             | 32-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 40-59 | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 59-60 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Hades-----                  | 0-3   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 | 5 | 6                                 | 48                                |
|                             | 3-18  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 |   |                                   |                                   |
|                             | 18-33 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 33-44 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 44-60 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| 147:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Hovarka-----                | 0-4   | ---  | ---  | ---   | 0.15-0.50                | 2-6                         | 0.20-0.25                      | 0.0-2.9                      | 25-75             | .10             | .10 | 4 | 6                                 | 48                                |
|                             | 4-12  | ---  | ---  | 18-25 | 1.25-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 5.0-10            | .10             | .15 |   |                                   |                                   |
|                             | 12-32 | ---  | ---  | 18-25 | 1.25-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 5.0-10            | .17             | .20 |   |                                   |                                   |
|                             | 32-36 | ---  | ---  | 5-10  | 1.40-1.55                | 6-20                        | 0.03-0.05                      | 0.0-2.9                      | 1.0-5.0           | .05             | .17 |   |                                   |                                   |
|                             | 36-64 | ---  | ---  | 0-5   | 1.50-1.60                | 6-20                        | 0.02-0.03                      | 0.0-2.9                      | 0.0-1.0           | .05             | .15 |   |                                   |                                   |
| Millcreek-----              | 0-14  | ---  | ---  | 18-27 | 1.20-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 4.0-7.0           | .20             | .24 | 4 | 6                                 | 48                                |
|                             | 14-24 | ---  | ---  | 18-27 | 1.25-1.40                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 2.0-5.0           | .24             | .28 |   |                                   |                                   |
|                             | 24-60 | ---  | ---  | 2-10  | 1.40-1.60                | 6-20                        | 0.03-0.05                      | 0.0-2.9                      | 0.0-1.0           | .05             | .17 |   |                                   |                                   |
| 148:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Jana-----                   | 0-1   | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 1.0-2.0           | .10             | .28 | 2 | 6                                 | 48                                |
|                             | 1-6   | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 6-12  | ---  | ---  | 15-22 | 1.25-1.50                | 0.6-2                       | 0.06-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .37 |   |                                   |                                   |
|                             | 12-22 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Richsum-----                | 0-2   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.16-0.18                      | 0.0-2.9                      | 1.0-3.0           | .37             | .43 | 4 | 5                                 | 56                                |
|                             | 2-14  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.18                      | 0.0-2.9                      | 0.5-1.0           | .43             | .49 |   |                                   |                                   |
|                             | 14-23 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.18                      | 0.0-2.9                      | 0.0-1.0           | .43             | .49 |   |                                   |                                   |
|                             | 23-32 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.18                      | 0.0-2.9                      | 0.0-1.0           | .43             | .49 |   |                                   |                                   |
|                             | 32-52 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.13-0.18                      | 0.0-2.9                      | 0.0-1.0           | .37             | .49 |   |                                   |                                   |
|                             | 52-60 | ---  | ---  | ---   | ---                      | 0.000-0.6                   | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Rock outcrop-----           | ---   | ---  | ---  | ---   | ---                      | ---                         | ---                            | ---                          | ---               | ---             | --- | - | ---                               | ---                               |
| 149:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Kovich-----                 | 0-9   | ---  | ---  | 20-27 | 1.30-1.40                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 5.0-10            | .24             | .24 | 4 | 6                                 | 48                                |
|                             | 9-22  | ---  | ---  | 20-35 | 1.30-1.40                | 0.2-0.6                     | 0.14-0.18                      | 3.0-5.9                      | 1.0-5.0           | .28             | .28 |   |                                   |                                   |
|                             | 22-29 | ---  | ---  | 20-35 | 1.30-1.50                | 0.2-0.6                     | 0.14-0.18                      | 3.0-5.9                      | 1.0-5.0           | .28             | .20 |   |                                   |                                   |
|                             | 29-44 | ---  | ---  | 15-25 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .20 |   |                                   |                                   |
|                             | 44-60 | ---  | ---  | 0-10  | 1.50-1.60                | 0.6-2                       | 0.05-0.06                      | 0.0-0.0                      | 0.0-1.0           | .05             | .15 |   |                                   |                                   |
| Toddspan-----               | 0-4   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 5.0-10            | .20             | .24 | 4 | 6                                 | 48                                |
|                             | 4-14  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 5.0-10            | .24             | .28 |   |                                   |                                   |
|                             | 14-19 | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 5.0-10            | .24             | .28 |   |                                   |                                   |
|                             | 19-24 | ---  | ---  | 18-35 | 1.30-1.40                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.5-1.0           | .20             | .37 |   |                                   |                                   |
|                             | 24-32 | ---  | ---  | 18-35 | 1.30-1.40                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.5-1.0           | .20             | .37 |   |                                   |                                   |
|                             | 32-37 | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.06-0.12                      | 0.0-2.9                      | 0.5-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 37-44 | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.06-0.12                      | 0.0-2.9                      | 0.5-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 44-60 | ---  | ---  | 0-10  | 1.40-1.50                | 6-20                        | 0.02-0.06                      | 0.0-2.9                      | 0.0-1.0           | .05             | .20 |   |                                   |                                   |



Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 150:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Lucky Star-----             | 0-6   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 5.0-10            | .15             | .24 | 5 | 7                                 | 38                                |
|                             | 6-12  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-5.0           | .15             | .28 |   |                                   |                                   |
|                             | 12-25 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 25-47 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 47-62 | ---  | ---  | 20-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 62-80 | ---  | ---  | 20-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| 151:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Lucky Star-----             | 0-6   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 5.0-10            | .15             | .24 | 5 | 7                                 | 38                                |
|                             | 6-12  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-5.0           | .15             | .28 |   |                                   |                                   |
|                             | 12-25 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 25-47 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 47-62 | ---  | ---  | 20-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 62-80 | ---  | ---  | 20-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| 152:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Lucky Star-----             | 0-6   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 5.0-10            | .15             | .24 | 5 | 7                                 | 38                                |
|                             | 6-12  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-5.0           | .15             | .28 |   |                                   |                                   |
|                             | 12-25 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 25-47 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 47-62 | ---  | ---  | 20-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 62-80 | ---  | ---  | 20-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| Dromedary-----              | 0-6   | ---  | ---  | 18-27 | 1.25-1.40                | 0.6-2                       | 0.12-0.14                      | 0.0-2.9                      | 3.0-5.0           | .17             | .24 | 5 | 7                                 | 38                                |
|                             | 6-22  | ---  | ---  | 15-20 | 1.35-1.50                | 2-6                         | 0.06-0.07                      | 0.0-2.9                      | 0.5-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 22-44 | ---  | ---  | 27-35 | 1.35-1.50                | 0.6-2                       | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 44-51 | ---  | ---  | 27-35 | 1.35-1.50                | 0.6-2                       | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 51-60 | ---  | ---  | 27-35 | 1.35-1.50                | 0.6-2                       | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| 153:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Lucky Star-----             | 0-6   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 5.0-10            | .15             | .24 | 5 | 7                                 | 38                                |
|                             | 6-12  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-5.0           | .15             | .28 |   |                                   |                                   |
|                             | 12-25 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 25-47 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 0.0-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 47-62 | ---  | ---  | 20-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 62-80 | ---  | ---  | 20-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| Fewkes-----                 | 0-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .28 | 5 | 7                                 | 38                                |
|                             | 12-17 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-22 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.5-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 22-28 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 28-40 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .37 |   |                                   |                                   |
|                             | 40-50 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 20-35 | 1.40-1.50                | 0.2-2                       | 0.11-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| 154:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Manila-----                 | 0-4   | ---  | ---  | 18-27 | 1.15-1.25                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 2.0-5.0           | .24             | .28 | 5 | 6                                 | 48                                |
|                             | 4-15  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-3.0           | .32             | .37 |   |                                   |                                   |
|                             | 15-22 | ---  | ---  | 35-50 | 1.20-1.30                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.5-1.0           | .24             | .28 |   |                                   |                                   |
|                             | 22-40 | ---  | ---  | 35-50 | 1.20-1.30                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.5-1.0           | .24             | .28 |   |                                   |                                   |
|                             | 40-46 | ---  | ---  | 35-50 | 1.20-1.30                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.5-1.0           | .20             | .28 |   |                                   |                                   |
|                             | 46-60 | ---  | ---  | 35-50 | 1.20-1.30                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.5-1.0           | .20             | .28 |   |                                   |                                   |
| Ant Flat-----               | 0-13  | ---  | ---  | 18-24 | 1.10-1.15                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .37             | .43 | 5 | 6                                 | 48                                |
|                             | 13-19 | ---  | ---  | 27-35 | 1.10-1.15                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .37             | .43 |   |                                   |                                   |
|                             | 19-30 | ---  | ---  | 40-55 | 1.15-1.25                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.0-1.0           | .32             | .37 |   |                                   |                                   |
|                             | 30-45 | ---  | ---  | 27-36 | 1.15-1.25                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-0.5           | .43             | .49 |   |                                   |                                   |
|                             | 45-60 | ---  | ---  | 27-36 | 1.15-1.25                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-0.5           | .43             | .49 |   |                                   |                                   |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind             | Wind             |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|------------------|------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   | erodi-<br>bility | erodi-<br>bility |
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T | group            | index            |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                  |                  |
| 155:<br>Manila-----         | 0-4   | ---  | ---  | 18-27 | 1.15-1.25                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 2.0-5.0           | .24             | .28 | 5 | 6                | 48               |
|                             | 4-15  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-3.0           | .32             | .37 |   |                  |                  |
|                             | 15-22 | ---  | ---  | 35-50 | 1.20-1.30                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.5-1.0           | .24             | .28 |   |                  |                  |
|                             | 22-40 | ---  | ---  | 35-50 | 1.20-1.30                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.5-1.0           | .24             | .28 |   |                  |                  |
|                             | 40-46 | ---  | ---  | 35-50 | 1.20-1.30                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.5-1.0           | .20             | .28 |   |                  |                  |
|                             | 46-60 | ---  | ---  | 35-50 | 1.20-1.30                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.5-1.0           | .20             | .28 |   |                  |                  |
| Ant Flat-----               | 0-13  | ---  | ---  | 18-24 | 1.10-1.15                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .37             | .43 | 5 | 6                | 48               |
|                             | 13-19 | ---  | ---  | 27-35 | 1.10-1.15                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .37             | .43 |   |                  |                  |
|                             | 19-30 | ---  | ---  | 40-55 | 1.15-1.25                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.0-1.0           | .32             | .37 |   |                  |                  |
|                             | 30-45 | ---  | ---  | 27-36 | 1.15-1.25                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-0.5           | .43             | .49 |   |                  |                  |
|                             | 45-60 | ---  | ---  | 27-36 | 1.15-1.25                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-0.5           | .43             | .49 |   |                  |                  |
| 156:<br>Manila-----         | 0-4   | ---  | ---  | 18-27 | 1.15-1.25                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 2.0-5.0           | .24             | .28 | 5 | 6                | 48               |
|                             | 4-15  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-3.0           | .32             | .37 |   |                  |                  |
|                             | 15-22 | ---  | ---  | 35-50 | 1.20-1.30                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.5-1.0           | .24             | .28 |   |                  |                  |
|                             | 22-40 | ---  | ---  | 35-50 | 1.20-1.30                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.5-1.0           | .24             | .28 |   |                  |                  |
|                             | 40-46 | ---  | ---  | 35-50 | 1.20-1.30                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.5-1.0           | .20             | .28 |   |                  |                  |
|                             | 46-60 | ---  | ---  | 35-50 | 1.20-1.30                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.5-1.0           | .20             | .28 |   |                  |                  |
| Harter-----                 | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .28             | .37 | 5 | 6                | 48               |
|                             | 5-12  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .28             | .37 |   |                  |                  |
|                             | 12-19 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .28             | .37 |   |                  |                  |
|                             | 19-24 | ---  | ---  | 35-40 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .24 |   |                  |                  |
|                             | 24-33 | ---  | ---  | 35-40 | 1.45-1.55                | 0.06-0.2                    | 0.12-0.15                      | 3.0-5.9                      | 0.0-1.0           | .15             | .24 |   |                  |                  |
|                             | 33-60 | ---  | ---  | 45-50 | 1.45-1.55                | 0.06-0.2                    | 0.12-0.15                      | 3.0-5.9                      | 0.0-1.0           | .15             | .24 |   |                  |                  |
| 157:<br>Manila-----         | 0-4   | ---  | ---  | 18-27 | 1.15-1.25                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 2.0-5.0           | .24             | .28 | 5 | 6                | 48               |
|                             | 4-15  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-3.0           | .32             | .37 |   |                  |                  |
|                             | 15-22 | ---  | ---  | 35-50 | 1.20-1.30                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.5-1.0           | .24             | .28 |   |                  |                  |
|                             | 22-40 | ---  | ---  | 35-50 | 1.20-1.30                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.5-1.0           | .24             | .28 |   |                  |                  |
|                             | 40-46 | ---  | ---  | 35-50 | 1.20-1.30                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.5-1.0           | .20             | .28 |   |                  |                  |
|                             | 46-60 | ---  | ---  | 35-50 | 1.20-1.30                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.5-1.0           | .20             | .28 |   |                  |                  |
| Henefer-----                | 0-7   | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .24 | 5 | 6                | 48               |
|                             | 7-12  | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-4.0           | .24             | .28 |   |                  |                  |
|                             | 12-21 | ---  | ---  | 35-50 | 1.40-1.50                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 1.0-3.0           | .15             | .28 |   |                  |                  |
|                             | 21-30 | ---  | ---  | 27-50 | 1.40-1.50                | 0.2-0.6                     | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                  |                  |
|                             | 30-37 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .32 |   |                  |                  |
|                             | 37-43 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                  |                  |
|                             | 43-50 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                  |                  |
|                             | 50-60 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                  |                  |
| 158:<br>Melling-----        | 0-6   | ---  | ---  | 18-24 | 1.25-1.40                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 2.0-5.0           | .05             | .24 | 1 | 8                | 0                |
|                             | 6-19  | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.09-0.12                      | 3.0-5.9                      | 1.0-3.0           | .10             | .28 |   |                  |                  |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                  |                  |
| Ayoub-----                  | 0-6   | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.17                      | 0.0-2.9                      | 3.0-5.0           | .15             | .37 | 2 | 8                | 0                |
|                             | 6-12  | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                  |                  |
|                             | 12-18 | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                  |                  |
|                             | 18-23 | ---  | ---  | 27-35 | 1.35-1.45                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 1.0-2.0           | .17             | .24 |   |                  |                  |
|                             | 23-35 | ---  | ---  | 18-27 | 1.30-1.40                | 0.2-0.6                     | 0.07-0.11                      | 0.0-2.9                      | 0.5-1.0           | .10             | .32 |   |                  |                  |
|                             | 35-45 | ---  | ---  | ---   | ---                      | 0.000-0.01                  | ---                            | ---                          | ---               | ---             | --- |   |                  |                  |
| Rock outcrop-----           | ---   | ---  | ---  | ---   | ---                      | ---                         | ---                            | ---                          | ---               | ---             | --- | - | ---              | ---              |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 159:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Parkcity-----               | 0-5   | ---  | ---  | 12-18 | 1.15-1.25                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 4.0-6.0           | .10             | .20 | 5 | 6                                 | 48                                |
|                             | 5-19  | ---  | ---  | 12-18 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-5.0           | .15             | .24 |   |                                   |                                   |
|                             | 19-36 | ---  | ---  | 12-18 | 1.25-1.35                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 1.0-2.0           | .10             | .32 |   |                                   |                                   |
|                             | 36-60 | ---  | ---  | 12-18 | 1.25-1.35                | 0.6-2                       | 0.06-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .37 |   |                                   |                                   |
| Dromedary-----              | 0-6   | ---  | ---  | 18-27 | 1.25-1.40                | 0.6-2                       | 0.12-0.14                      | 0.0-2.9                      | 3.0-5.0           | .17             | .24 | 5 | 7                                 | 38                                |
|                             | 6-22  | ---  | ---  | 15-20 | 1.35-1.50                | 2-6                         | 0.06-0.07                      | 0.0-2.9                      | 0.5-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 22-44 | ---  | ---  | 27-35 | 1.35-1.50                | 0.6-2                       | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 44-51 | ---  | ---  | 27-35 | 1.35-1.50                | 0.6-2                       | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 51-60 | ---  | ---  | 27-35 | 1.35-1.50                | 0.6-2                       | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| 160:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Parkcity-----               | 0-5   | ---  | ---  | 12-18 | 1.15-1.25                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 4.0-6.0           | .10             | .20 | 5 | 6                                 | 48                                |
|                             | 5-19  | ---  | ---  | 12-18 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-5.0           | .15             | .24 |   |                                   |                                   |
|                             | 19-36 | ---  | ---  | 12-18 | 1.25-1.35                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 1.0-2.0           | .10             | .32 |   |                                   |                                   |
|                             | 36-60 | ---  | ---  | 12-18 | 1.25-1.35                | 0.6-2                       | 0.06-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .37 |   |                                   |                                   |
| Dromedary-----              | 0-6   | ---  | ---  | 18-27 | 1.25-1.40                | 0.6-2                       | 0.12-0.14                      | 0.0-2.9                      | 3.0-5.0           | .17             | .24 | 5 | 7                                 | 38                                |
|                             | 6-22  | ---  | ---  | 15-20 | 1.35-1.50                | 2-6                         | 0.06-0.07                      | 0.0-2.9                      | 0.5-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 22-44 | ---  | ---  | 27-35 | 1.35-1.50                | 0.6-2                       | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 44-51 | ---  | ---  | 27-35 | 1.35-1.50                | 0.6-2                       | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 51-60 | ---  | ---  | 27-35 | 1.35-1.50                | 0.6-2                       | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| 161:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Pits-----                   | ---   | ---  | ---  | ---   | ---                      | ---                         | ---                            | ---                          | ---               | ---             | --- | - | ---                               | ---                               |
| 162:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Richsum-----                | 0-2   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.16-0.18                      | 0.0-2.9                      | 1.0-3.0           | .37             | .43 | 4 | 5                                 | 56                                |
|                             | 2-14  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.18                      | 0.0-2.9                      | 0.5-1.0           | .43             | .49 |   |                                   |                                   |
|                             | 14-23 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.18                      | 0.0-2.9                      | 0.0-1.0           | .43             | .49 |   |                                   |                                   |
|                             | 23-32 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.18                      | 0.0-2.9                      | 0.0-1.0           | .43             | .49 |   |                                   |                                   |
|                             | 32-52 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.13-0.18                      | 0.0-2.9                      | 0.0-1.0           | .37             | .49 |   |                                   |                                   |
|                             | 52-60 | ---  | ---  | ---   | ---                      | 0.000-0.6                   | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Heiners-----                | 0-3   | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-3.0           | .15             | .28 | 2 | 5                                 | 56                                |
|                             | 3-8   | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-2.0           | .17             | .32 |   |                                   |                                   |
|                             | 8-12  | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 12-19 | ---  | ---  | 15-22 | 1.25-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 163:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Richsum-----                | 0-2   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.16-0.18                      | 0.0-2.9                      | 1.0-3.0           | .37             | .43 | 4 | 5                                 | 56                                |
|                             | 2-14  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.18                      | 0.0-2.9                      | 0.5-1.0           | .43             | .49 |   |                                   |                                   |
|                             | 14-23 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.18                      | 0.0-2.9                      | 0.0-1.0           | .43             | .49 |   |                                   |                                   |
|                             | 23-32 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.18                      | 0.0-2.9                      | 0.0-1.0           | .43             | .49 |   |                                   |                                   |
|                             | 32-52 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.13-0.18                      | 0.0-2.9                      | 0.0-1.0           | .37             | .49 |   |                                   |                                   |
|                             | 52-60 | ---  | ---  | ---   | ---                      | 0.000-0.6                   | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Heiners-----                | 0-3   | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-3.0           | .15             | .28 | 2 | 5                                 | 56                                |
|                             | 3-8   | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-2.0           | .17             | .32 |   |                                   |                                   |
|                             | 8-12  | ---  | ---  | 15-22 | 1.25-1.40                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 12-19 | ---  | ---  | 15-22 | 1.25-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 164:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Rock outcrop-----           | ---   | ---  | ---  | ---   | ---                      | ---                         | ---                            | ---                          | ---               | ---             | --- | - | ---                               | ---                               |
| Agassiz-----                | 0-6   | ---  | ---  | 18-27 | 1.20-1.40                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-4.0           | .10             | .28 | 1 | 8                                 | 0                                 |
|                             | 6-14  | ---  | ---  | 18-27 | 1.20-1.40                | 0.6-2                       | 0.06-0.11                      | 0.0-2.9                      | 1.0-3.0           | .10             | .32 |   |                                   |                                   |
|                             | 14-24 | ---  | ---  | ---   | ---                      | 0.000-0.002                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 164:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Starley Family-----         | 0-6   | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 1.0-4.0           | .05             | .20 | 1 | 8                                 | 0                                 |
|                             | 6-15  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 1.0-2.0           | .05             | .32 |   |                                   |                                   |
|                             | 15-19 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 0.5-1.0           | .05             | .37 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Hades-----                  | 0-3   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 | 5 | 6                                 | 48                                |
|                             | 3-18  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-5.0           | .28             | .32 |   |                                   |                                   |
|                             | 18-33 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 33-44 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 44-60 | ---  | ---  | 27-35 | 1.25-1.40                | 0.2-0.6                     | 0.13-0.18                      | 3.0-5.9                      | 0.0-1.0           | .24             | .37 |   |                                   |                                   |
| Parkcity-----               | 0-5   | ---  | ---  | 12-18 | 1.15-1.25                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 4.0-6.0           | .10             | .20 | 5 | 6                                 | 48                                |
|                             | 5-19  | ---  | ---  | 12-18 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-5.0           | .15             | .24 |   |                                   |                                   |
|                             | 19-36 | ---  | ---  | 12-18 | 1.25-1.35                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 1.0-2.0           | .10             | .32 |   |                                   |                                   |
|                             | 36-60 | ---  | ---  | 12-18 | 1.25-1.35                | 0.6-2                       | 0.06-0.11                      | 0.0-2.9                      | 0.0-1.0           | .10             | .37 |   |                                   |                                   |
| 165:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Rock outcrop-----           | ---   | ---  | ---  | ---   | ---                      | ---                         | ---                            | ---                          | ---               | ---             | --- | - | ---                               | ---                               |
| Starley Family-----         | 0-6   | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 1.0-4.0           | .05             | .20 | 1 | 8                                 | 0                                 |
|                             | 6-15  | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 1.0-2.0           | .05             | .32 |   |                                   |                                   |
|                             | 15-19 | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.06-0.08                      | 0.0-2.9                      | 0.5-1.0           | .05             | .37 |   |                                   |                                   |
|                             | 19-29 | ---  | ---  | ---   | ---                      | 0.000-0.001                 | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 166:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Sessions-----               | 0-8   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-8.0           | .17             | .20 | 5 | 6                                 | 48                                |
|                             | 8-15  | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-5.0           | .20             | .24 |   |                                   |                                   |
|                             | 15-48 | ---  | ---  | 40-45 | 1.20-1.30                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.0-1.0           | .24             | .28 |   |                                   |                                   |
|                             | 48-52 | ---  | ---  | 27-40 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
|                             | 52-60 | ---  | ---  | 27-40 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
| Haydenfork-----             | 0-3   | ---  | ---  | ---   | 0.15-0.50                | 2-6                         | 0.20-0.25                      | 0.0-2.9                      | 25-75             | .10             | .10 | 5 | 6                                 | 48                                |
|                             | 3-9   | ---  | ---  | 27-35 | 1.20-1.30                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 4.0-7.0           | .15             | .17 |   |                                   |                                   |
|                             | 9-17  | ---  | ---  | 27-35 | 1.20-1.30                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 2.0-5.0           | .24             | .28 |   |                                   |                                   |
|                             | 17-21 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-3.0           | .28             | .32 |   |                                   |                                   |
|                             | 21-25 | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 0.0-1.0           | .32             | .37 |   |                                   |                                   |
|                             | 25-36 | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.14-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 36-55 | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.14-0.18                      | 3.0-5.9                      | 0.0-1.0           | .28             | .32 |   |                                   |                                   |
|                             | 55-63 | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.15                      | 0.0-2.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
| 167:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Sessions-----               | 0-8   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-8.0           | .17             | .20 | 5 | 6                                 | 48                                |
|                             | 8-15  | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-5.0           | .20             | .24 |   |                                   |                                   |
|                             | 15-48 | ---  | ---  | 40-45 | 1.20-1.30                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.0-1.0           | .24             | .28 |   |                                   |                                   |
|                             | 48-52 | ---  | ---  | 27-40 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
|                             | 52-60 | ---  | ---  | 27-40 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
| Skutum-----                 | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-8.0           | .20             | .24 | 4 | 6                                 | 48                                |
|                             | 5-17  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-4.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-32 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 32-44 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 44-48 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 48-56 | ---  | ---  | 15-20 | 1.35-1.50                | 0.6-2                       | 0.08-0.09                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 56-60 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 168:                        |       |      |      |       |                          |                             |                                |                              |                   |                 |     |   |                                   |                                   |
| Sessions-----               | 0-8   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-8.0           | .17             | .20 | 5 | 6                                 | 48                                |
|                             | 8-15  | ---  | ---  | 27-35 | 1.30-1.40                | 0.2-0.6                     | 0.16-0.18                      | 3.0-5.9                      | 1.0-5.0           | .20             | .24 |   |                                   |                                   |
|                             | 15-48 | ---  | ---  | 40-45 | 1.20-1.30                | 0.06-0.2                    | 0.15-0.18                      | 6.0-8.9                      | 0.0-1.0           | .24             | .28 |   |                                   |                                   |
|                             | 48-52 | ---  | ---  | 27-40 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
|                             | 52-60 | ---  | ---  | 27-40 | 1.30-1.40                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 168:<br>Uinta-----          | 0-13  | ---  | ---  | 10-20 | 1.30-1.40                | 2-6                         | 0.08-0.09                      | 0.0-2.9                      | 1.0-2.0           | .15             | .24 | 5 | 5                                 | 56                                |
|                             | 13-23 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.08-0.09                      | 0.0-2.9                      | 0.5-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 23-35 | ---  | ---  | 27-35 | 1.30-1.40                | 0.6-2                       | 0.12-0.16                      | 3.0-5.9                      | 0.5-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 35-50 | ---  | ---  | 27-35 | 1.30-1.35                | 0.2-0.6                     | 0.12-0.16                      | 3.0-5.9                      | 0.5-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
| 169:<br>Skutum-----         | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-8.0           | .20             | .24 | 4 | 6                                 | 48                                |
|                             | 5-17  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-4.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-32 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 32-44 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 44-48 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 48-56 | ---  | ---  | 15-20 | 1.35-1.50                | 0.6-2                       | 0.08-0.09                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 56-60 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 170:<br>Skutum-----         | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-8.0           | .20             | .24 | 4 | 6                                 | 48                                |
|                             | 5-17  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-4.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-32 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 32-44 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 44-48 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 48-56 | ---  | ---  | 15-20 | 1.35-1.50                | 0.6-2                       | 0.08-0.09                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 56-60 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 171:<br>Skutum-----         | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-8.0           | .20             | .24 | 4 | 6                                 | 48                                |
|                             | 5-17  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-4.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-32 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 32-44 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 44-48 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 48-56 | ---  | ---  | 15-20 | 1.35-1.50                | 0.6-2                       | 0.08-0.09                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 56-60 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| 172:<br>Skutum-----         | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-8.0           | .20             | .24 | 4 | 6                                 | 48                                |
|                             | 5-17  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-4.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-32 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 32-44 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 44-48 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 48-56 | ---  | ---  | 15-20 | 1.35-1.50                | 0.6-2                       | 0.08-0.09                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 56-60 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Uinta-----                  | 0-13  | ---  | ---  | 10-20 | 1.30-1.40                | 2-6                         | 0.08-0.09                      | 0.0-2.9                      | 1.0-2.0           | .15             | .24 | 5 | 5                                 | 56                                |
|                             | 13-23 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.08-0.09                      | 0.0-2.9                      | 0.5-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 23-35 | ---  | ---  | 27-35 | 1.30-1.40                | 0.6-2                       | 0.12-0.16                      | 3.0-5.9                      | 0.5-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 35-50 | ---  | ---  | 27-35 | 1.30-1.35                | 0.2-0.6                     | 0.12-0.16                      | 3.0-5.9                      | 0.5-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
| 173:<br>Skutum-----         | 0-5   | ---  | ---  | 18-27 | 1.20-1.30                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 3.0-8.0           | .20             | .24 | 4 | 6                                 | 48                                |
|                             | 5-17  | ---  | ---  | 18-27 | 1.25-1.35                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 1.0-4.0           | .28             | .32 |   |                                   |                                   |
|                             | 17-32 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 32-44 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 44-48 | ---  | ---  | 35-45 | 1.20-1.35                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 48-56 | ---  | ---  | 15-20 | 1.35-1.50                | 0.6-2                       | 0.08-0.09                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 56-60 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |
| Uinta-----                  | 0-13  | ---  | ---  | 10-20 | 1.30-1.40                | 2-6                         | 0.08-0.09                      | 0.0-2.9                      | 1.0-2.0           | .15             | .24 | 5 | 5                                 | 56                                |
|                             | 13-23 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.08-0.09                      | 0.0-2.9                      | 0.5-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 23-35 | ---  | ---  | 27-35 | 1.30-1.40                | 0.6-2                       | 0.12-0.16                      | 3.0-5.9                      | 0.5-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 35-50 | ---  | ---  | 27-35 | 1.30-1.35                | 0.2-0.6                     | 0.12-0.16                      | 3.0-5.9                      | 0.5-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |

Table 16.--Physical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind<br>erodi-<br>bility<br>group | Wind<br>erodi-<br>bility<br>index |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|-----------------------------------|-----------------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T |                                   |                                   |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                                   |                                   |
| 174:<br>Snyderville-----    | 0-10  | ---  | ---  | 18-22 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-5.0           | .15             | .24 | 3 | 7                                 | 38                                |
|                             | 10-16 | ---  | ---  | 18-22 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-3.0           | .17             | .32 |   |                                   |                                   |
|                             | 16-28 | ---  | ---  | 22-27 | 1.30-1.40                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.5-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 28-35 | ---  | ---  | 5-10  | 1.40-1.60                | 6-20                        | 0.03-0.05                      | 0.0-2.9                      | 0.0-1.0           | .05             | .20 |   |                                   |                                   |
|                             | 35-60 | ---  | ---  | 0-5   | 1.40-1.60                | 20-101                      | 0.02-0.03                      | 0.0-2.9                      | 0.0-0.5           | .02             | .20 |   |                                   |                                   |
| 175:<br>Snyderville-----    | 0-10  | ---  | ---  | 18-22 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-5.0           | .15             | .24 | 3 | 7                                 | 38                                |
|                             | 10-16 | ---  | ---  | 18-22 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-3.0           | .17             | .32 |   |                                   |                                   |
|                             | 16-28 | ---  | ---  | 22-27 | 1.30-1.40                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.5-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 28-35 | ---  | ---  | 5-10  | 1.40-1.60                | 6-20                        | 0.03-0.05                      | 0.0-2.9                      | 0.0-1.0           | .05             | .20 |   |                                   |                                   |
|                             | 35-60 | ---  | ---  | 0-5   | 1.40-1.60                | 20-101                      | 0.02-0.03                      | 0.0-2.9                      | 0.0-0.5           | .02             | .20 |   |                                   |                                   |
| 176:<br>Snyderville-----    | 0-10  | ---  | ---  | 18-22 | 1.20-1.30                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-5.0           | .15             | .24 | 3 | 7                                 | 38                                |
|                             | 10-16 | ---  | ---  | 18-22 | 1.25-1.35                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 1.0-3.0           | .17             | .32 |   |                                   |                                   |
|                             | 16-28 | ---  | ---  | 22-27 | 1.30-1.40                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.5-1.0           | .10             | .28 |   |                                   |                                   |
|                             | 28-35 | ---  | ---  | 5-10  | 1.40-1.60                | 6-20                        | 0.03-0.05                      | 0.0-2.9                      | 0.0-1.0           | .05             | .20 |   |                                   |                                   |
|                             | 35-60 | ---  | ---  | 0-5   | 1.40-1.60                | 20-101                      | 0.02-0.03                      | 0.0-2.9                      | 0.0-0.5           | .02             | .20 |   |                                   |                                   |
| 177:<br>Uinta-----          | 0-13  | ---  | ---  | 10-20 | 1.30-1.40                | 2-6                         | 0.08-0.09                      | 0.0-2.9                      | 1.0-2.0           | .15             | .24 | 5 | 5                                 | 56                                |
|                             | 13-23 | ---  | ---  | 10-20 | 1.35-1.45                | 2-6                         | 0.08-0.09                      | 0.0-2.9                      | 0.5-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 23-35 | ---  | ---  | 27-35 | 1.30-1.40                | 0.6-2                       | 0.12-0.16                      | 3.0-5.9                      | 0.5-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 35-50 | ---  | ---  | 27-35 | 1.30-1.35                | 0.2-0.6                     | 0.12-0.16                      | 3.0-5.9                      | 0.5-1.0           | .15             | .28 |   |                                   |                                   |
|                             | 50-60 | ---  | ---  | 27-35 | 1.25-1.35                | 0.2-0.6                     | 0.13-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                                   |                                   |
| Duchesne-----               | 0-4   | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.07                      | 0.0-2.9                      | 4.0-6.0           | .20             | .43 | 5 | 6                                 | 48                                |
|                             | 4-11  | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 4.0-6.0           | .05             | .17 |   |                                   |                                   |
|                             | 11-18 | ---  | ---  | 10-20 | 1.40-1.50                | 2-6                         | 0.06-0.08                      | 0.0-2.9                      | 4.0-6.0           | .05             | .17 |   |                                   |                                   |
|                             | 18-30 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 30-42 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .15             | .24 |   |                                   |                                   |
|                             | 42-60 | ---  | ---  | 25-35 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .24 |   |                                   |                                   |
| 178:<br>Wanship-----        | 0-8   | ---  | ---  | 18-27 | 1.20-1.30                | 2-6                         | 0.14-0.17                      | 0.0-2.9                      | 5.0-10            | .17             | .20 | 3 | 6                                 | 48                                |
|                             | 8-14  | ---  | ---  | 18-27 | 1.25-1.35                | 2-6                         | 0.14-0.17                      | 0.0-2.9                      | 1.0-5.0           | .28             | .32 |   |                                   |                                   |
|                             | 14-24 | ---  | ---  | 18-27 | 1.25-1.35                | 2-6                         | 0.14-0.17                      | 0.0-2.9                      | 1.0-5.0           | .28             | .32 |   |                                   |                                   |
|                             | 24-26 | ---  | ---  | 0-5   | 1.40-1.55                | 6-20                        | 0.02-0.04                      | 0.0-2.9                      | 0.0-1.0           | .05             | .20 |   |                                   |                                   |
|                             | 26-60 | ---  | ---  | 0-5   | 1.40-1.55                | 6-20                        | 0.02-0.04                      | 0.0-2.9                      | 0.0-1.0           | .05             | .20 |   |                                   |                                   |
| 179:<br>Wanship-----        | 0-8   | ---  | ---  | 18-27 | 1.20-1.30                | 2-6                         | 0.14-0.17                      | 0.0-2.9                      | 5.0-10            | .17             | .20 | 3 | 6                                 | 48                                |
|                             | 8-14  | ---  | ---  | 18-27 | 1.25-1.35                | 2-6                         | 0.14-0.17                      | 0.0-2.9                      | 1.0-5.0           | .28             | .32 |   |                                   |                                   |
|                             | 14-24 | ---  | ---  | 18-27 | 1.25-1.35                | 2-6                         | 0.14-0.17                      | 0.0-2.9                      | 1.0-5.0           | .28             | .32 |   |                                   |                                   |
|                             | 24-26 | ---  | ---  | 0-5   | 1.40-1.55                | 6-20                        | 0.02-0.04                      | 0.0-2.9                      | 0.0-1.0           | .05             | .20 |   |                                   |                                   |
|                             | 26-60 | ---  | ---  | 0-5   | 1.40-1.55                | 6-20                        | 0.02-0.04                      | 0.0-2.9                      | 0.0-1.0           | .05             | .20 |   |                                   |                                   |
| Kovich-----                 | 0-9   | ---  | ---  | 20-27 | 1.30-1.40                | 0.6-2                       | 0.14-0.17                      | 0.0-2.9                      | 5.0-10            | .24             | .24 | 4 | 6                                 | 48                                |
|                             | 9-22  | ---  | ---  | 20-35 | 1.30-1.40                | 0.2-0.6                     | 0.14-0.18                      | 3.0-5.9                      | 1.0-5.0           | .28             | .28 |   |                                   |                                   |
|                             | 22-29 | ---  | ---  | 20-35 | 1.30-1.50                | 0.2-0.6                     | 0.14-0.18                      | 3.0-5.9                      | 1.0-5.0           | .28             | .20 |   |                                   |                                   |
|                             | 29-44 | ---  | ---  | 15-25 | 1.40-1.50                | 0.6-2                       | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .20 |   |                                   |                                   |
|                             | 44-60 | ---  | ---  | 0-10  | 1.50-1.60                | 0.6-2                       | 0.05-0.06                      | 0.0-0.0                      | 0.0-1.0           | .05             | .15 |   |                                   |                                   |
| 180:<br>Yeates Hollow-----  | 0-12  | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-5.0           | .05             | .20 | 3 | 8                                 | 0                                 |
|                             | 12-25 | ---  | ---  | 40-55 | 1.20-1.45                | 0.06-0.2                    | 0.08-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 25-37 | ---  | ---  | 40-55 | 1.20-1.45                | 0.06-0.2                    | 0.08-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .24 |   |                                   |                                   |
|                             | 37-43 | ---  | ---  | 35-40 | 1.20-1.45                | 0.2-0.6                     | 0.07-0.09                      | 0.0-2.9                      | 0.0-1.0           | .05             | .28 |   |                                   |                                   |
|                             | 43-53 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                                   |                                   |

| Map symbol<br>and soil name | Depth | Sand | Silt | Clay  | Moist<br>bulk<br>density | Permea-<br>bility<br>(Ksat) | Available<br>water<br>capacity | Linear<br>extensi-<br>bility | Organic<br>matter | Erosion factors |     |   | Wind                      | Wind                      |
|-----------------------------|-------|------|------|-------|--------------------------|-----------------------------|--------------------------------|------------------------------|-------------------|-----------------|-----|---|---------------------------|---------------------------|
|                             |       |      |      |       |                          |                             |                                |                              |                   | Kw              | Kf  | T | erodi-<br>bility<br>group | erodi-<br>bility<br>index |
|                             | In.   | Pct. | Pct. | Pct.  | g/cc                     | In./hr.                     | In./in.                        | Pct.                         | Pct.              |                 |     |   |                           |                           |
| 180:<br>Henefer-----        | 0-7   | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .24 | 5 | 7                         | 38                        |
|                             | 7-12  | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-4.0           | .24             | .28 |   |                           |                           |
|                             | 12-21 | ---  | ---  | 35-50 | 1.40-1.50                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 1.0-3.0           | .15             | .28 |   |                           |                           |
|                             | 21-30 | ---  | ---  | 27-50 | 1.40-1.50                | 0.2-0.6                     | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                           |                           |
|                             | 30-37 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .32 |   |                           |                           |
|                             | 37-43 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                           |                           |
|                             | 43-50 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                           |                           |
|                             | 50-60 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                           |                           |
| 181:<br>Yeates Hollow-----  | 0-12  | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-5.0           | .05             | .20 | 3 | 8                         | 0                         |
|                             | 12-25 | ---  | ---  | 40-55 | 1.20-1.45                | 0.06-0.2                    | 0.08-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .24 |   |                           |                           |
|                             | 25-37 | ---  | ---  | 40-55 | 1.20-1.45                | 0.06-0.2                    | 0.08-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .24 |   |                           |                           |
|                             | 37-43 | ---  | ---  | 35-40 | 1.20-1.45                | 0.2-0.6                     | 0.07-0.09                      | 0.0-2.9                      | 0.0-1.0           | .05             | .28 |   |                           |                           |
|                             | 43-53 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                           |                           |
| Henefer-----                | 0-7   | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .24 | 5 | 7                         | 38                        |
|                             | 7-12  | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-4.0           | .24             | .28 |   |                           |                           |
|                             | 12-21 | ---  | ---  | 35-50 | 1.40-1.50                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 1.0-3.0           | .15             | .28 |   |                           |                           |
|                             | 21-30 | ---  | ---  | 27-50 | 1.40-1.50                | 0.2-0.6                     | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                           |                           |
|                             | 30-37 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 3.0-5.9                      | 0.0-1.0           | .10             | .32 |   |                           |                           |
|                             | 37-43 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                           |                           |
|                             | 43-50 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                           |                           |
|                             | 50-60 | ---  | ---  | 27-40 | 1.40-1.50                | 0.2-0.6                     | 0.08-0.12                      | 0.0-2.9                      | 0.0-1.0           | .10             | .32 |   |                           |                           |
| 182:<br>Yeates Hollow-----  | 0-12  | ---  | ---  | 18-27 | 1.15-1.30                | 0.6-2                       | 0.08-0.11                      | 0.0-2.9                      | 2.0-5.0           | .05             | .20 | 3 | 8                         | 0                         |
|                             | 12-25 | ---  | ---  | 40-55 | 1.20-1.45                | 0.06-0.2                    | 0.08-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .24 |   |                           |                           |
|                             | 25-37 | ---  | ---  | 40-55 | 1.20-1.45                | 0.06-0.2                    | 0.08-0.12                      | 3.0-5.9                      | 0.5-1.0           | .10             | .24 |   |                           |                           |
|                             | 37-43 | ---  | ---  | 35-40 | 1.20-1.45                | 0.2-0.6                     | 0.07-0.09                      | 0.0-2.9                      | 0.0-1.0           | .05             | .28 |   |                           |                           |
|                             | 43-53 | ---  | ---  | ---   | ---                      | 0.2-0.6                     | ---                            | ---                          | ---               | ---             | --- |   |                           |                           |
| Henefer-----                | 0-7   | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 3.0-5.0           | .15             | .24 | 5 | 7                         | 38                        |
|                             | 7-12  | ---  | ---  | 18-27 | 1.30-1.40                | 0.6-2                       | 0.11-0.14                      | 0.0-2.9                      | 2.0-4.0           | .24             | .28 |   |                           |                           |
|                             | 12-21 | ---  | ---  | 35-50 | 1.40-1.50                | 0.06-0.2                    | 0.12-0.16                      | 3.0-5.9                      | 1.0-3.0           | .15             | .28 |   |                           |                           |
|                             | 21-30 | ---  | ---  | 27-50 | 1.40-1.50                | 0.2-0.6                     | 0.12-0.16                      | 3.0-5.9                      | 0.0-1.0           | .17             | .32 |   |                           |                           |



Table 17.--Chemical properties of the soils

(Absence of an entry indicates that data were not estimated.)

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meq/100 g                      | meq/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 101:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Agassiz-----                | 0-6   | 15-25                          | ---                                         | 7.4-8.4          | 0-3                       | 0      | 0          | 0                                  |
|                             | 6-14  | 15-25                          | ---                                         | 7.4-8.4          | 0-3                       | 0      | 0          | 0                                  |
|                             | 14-24 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Rock outcrop-----           | ---   | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 102:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Ant Flat-----               | 0-13  | 20-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 13-19 | 20-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-30 | 28-42                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 30-45 | 20-28                          | ---                                         | 7.4-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 45-60 | 20-28                          | ---                                         | 7.4-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
| 103:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Ant Flat-----               | 0-13  | 20-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 13-19 | 20-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-30 | 28-42                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 30-45 | 20-28                          | ---                                         | 7.4-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 45-60 | 20-28                          | ---                                         | 7.4-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
| 104:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Ant Flat-----               | 0-13  | 20-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 13-19 | 20-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-30 | 28-42                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 30-45 | 20-28                          | ---                                         | 7.4-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 45-60 | 20-28                          | ---                                         | 7.4-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
| 105:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Ant Flat-----               | 0-13  | 20-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 13-19 | 20-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-30 | 28-42                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 30-45 | 20-28                          | ---                                         | 7.4-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 45-60 | 20-28                          | ---                                         | 7.4-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
| Henefer-----                | 0-7   | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 7-12  | 18-28                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-21 | 27-42                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 21-30 | 20-40                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 30-37 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 37-43 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 43-50 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 50-60 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
| Skutum-----                 | 0-5   | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-17  | 15-27                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 17-32 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 32-44 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-48 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 48-56 | 10-17                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 56-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 106:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Ayoub-----                  | 0-6   | 17-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-12  | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-18 | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 18-23 | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 23-35 | 12-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 35-45 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |

Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meg/100 g                      | meg/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 107:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Ayoub-----                  | 0-6   | 17-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-12  | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-18 | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 18-23 | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 23-35 | 12-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 35-45 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Dunford-----                | 0-10  | 17-27                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 10-21 | 18-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 21-36 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 36-46 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Melling-----                | 0-6   | 15-25                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-19  | 18-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 108:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Ayoub-----                  | 0-6   | 17-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-12  | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-18 | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 18-23 | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 23-35 | 12-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 35-45 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Dunford-----                | 0-10  | 17-27                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 10-21 | 18-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 21-36 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 36-46 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Melling-----                | 0-6   | 15-25                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-19  | 18-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 109:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Cluff-----                  | 0-4   | 17-27                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 4-9   | 17-27                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 9-16  | 15-22                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 16-20 | 25-30                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 20-33 | 25-30                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 33-54 | 28-37                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 54-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 110:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Cluff-----                  | 0-4   | 17-27                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 4-9   | 17-27                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 9-16  | 15-22                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 16-20 | 25-30                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 20-33 | 25-30                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 33-54 | 28-37                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 54-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 111:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Crandall-----               | 0-5   | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-14  | 15-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 14-45 | 17-22                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 45-55 | 12-20                          | ---                                         | 7.4-7.8          | 3-15                      | 0      | 0          | 0                                  |
|                             | 55-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |

Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meg/100 g                      | meg/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 112:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Crandall-----               | 0-5   | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-14  | 15-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 14-45 | 17-22                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 45-55 | 12-20                          | ---                                         | 7.4-7.8          | 3-15                      | 0      | 0          | 0                                  |
|                             | 55-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Lucky Star-----             | 0-6   | 20-38                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-12  | 12-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-25 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 25-47 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 47-62 | 10-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 62-80 | 10-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 113:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Crandall-----               | 0-5   | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-14  | 15-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 14-45 | 17-22                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 45-55 | 12-20                          | ---                                         | 7.4-7.8          | 3-15                      | 0      | 0          | 0                                  |
|                             | 55-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Lucky Star-----             | 0-6   | 20-38                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-12  | 12-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-25 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 25-47 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 47-62 | 10-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 62-80 | 10-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| Starley Family-----         | 0-6   | 10-25                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 6-15  | 10-20                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 15-19 | 10-20                          | ---                                         | 6.6-8.4          | 0-3                       | 0      | 0          | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 114:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Crandall-----               | 0-5   | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-14  | 15-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 14-45 | 17-22                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 45-55 | 12-20                          | ---                                         | 7.4-7.8          | 3-15                      | 0      | 0          | 0                                  |
|                             | 55-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Starley Family-----         | 0-6   | 10-25                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 6-15  | 10-20                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 15-19 | 10-20                          | ---                                         | 6.6-8.4          | 0-3                       | 0      | 0          | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Rock outcrop-----           | ---   | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 115:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Dastrup-----                | 0-12  | 10-25                          | ---                                         | 7.4-7.8          | 1-3                       | 0      | 0.0-2.0    | 0                                  |
|                             | 12-16 | 10-25                          | ---                                         | 7.4-7.8          | 3-15                      | 0      | 0.0-2.0    | 0                                  |
|                             | 16-36 | 10-22                          | ---                                         | 7.4-7.8          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 36-48 | 10-22                          | ---                                         | 7.4-8.4          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 48-60 | 10-22                          | ---                                         | 7.4-8.4          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
| 116:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Dastrup-----                | 0-12  | 10-25                          | ---                                         | 7.4-7.8          | 1-3                       | 0      | 0.0-2.0    | 0                                  |
|                             | 12-16 | 10-25                          | ---                                         | 7.4-7.8          | 3-15                      | 0      | 0.0-2.0    | 0                                  |
|                             | 16-36 | 10-22                          | ---                                         | 7.4-7.8          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 36-48 | 10-22                          | ---                                         | 7.4-8.4          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 48-60 | 10-22                          | ---                                         | 7.4-8.4          | 15-40                     | 0      | 0.0-2.0    | 0                                  |



Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meg/100 g                      | meg/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 124:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Dunford-----                | 0-10  | 17-27                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 10-21 | 18-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 21-36 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 36-46 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Ayoub-----                  | 0-6   | 17-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-12  | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-18 | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 18-23 | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 23-35 | 12-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 35-45 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Melling-----                | 0-6   | 15-25                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-19  | 18-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 125:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Dunford-----                | 0-10  | 17-27                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 10-21 | 18-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 21-36 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 36-46 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Ayoub-----                  | 0-6   | 17-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-12  | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-18 | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 18-23 | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 23-35 | 12-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 35-45 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Melling-----                | 0-6   | 15-25                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-19  | 18-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 126:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Echocreek-----              | 0-7   | 15-28                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0.0-2.0    | 0                                  |
|                             | 7-18  | 15-28                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0.0-2.0    | 0                                  |
|                             | 18-26 | 12-25                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0.0-2.0    | 0                                  |
|                             | 26-38 | 12-20                          | ---                                         | 7.4-8.4          | 3-15                      | 0      | 0.0-2.0    | 0                                  |
|                             | 38-45 | 12-20                          | ---                                         | 7.4-8.4          | 3-15                      | 0      | 0.0-2.0    | 0                                  |
|                             | 45-60 | 12-20                          | ---                                         | 7.4-8.4          | 3-15                      | 0      | 0.0-2.0    | 0                                  |
| 127:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Echocreek-----              | 0-7   | 15-28                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0.0-2.0    | 0                                  |
|                             | 7-18  | 15-28                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0.0-2.0    | 0                                  |
|                             | 18-26 | 12-25                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0.0-2.0    | 0                                  |
|                             | 26-38 | 12-20                          | ---                                         | 7.4-8.4          | 3-15                      | 0      | 0.0-2.0    | 0                                  |
|                             | 38-45 | 12-20                          | ---                                         | 7.4-8.4          | 3-15                      | 0      | 0.0-2.0    | 0                                  |
|                             | 45-60 | 12-20                          | ---                                         | 7.4-8.4          | 3-15                      | 0      | 0.0-2.0    | 0                                  |
| Kovich-----                 | 0-9   | 22-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 9-22  | 15-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 22-29 | 15-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 29-44 | 10-17                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-60 | 0.0-10                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |

Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meq/100 g                      | meq/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 128:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Fewkes-----                 | 0-12  | 17-28                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 12-17 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 17-22 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 22-28 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 28-40 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 40-50 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 50-60 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
| 129:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Fewkes-----                 | 0-12  | 17-28                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 12-17 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 17-22 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 22-28 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 28-40 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 40-50 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 50-60 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
| 130:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Fewkes-----                 | 0-12  | 17-28                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 12-17 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 17-22 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 22-28 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 28-40 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 40-50 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 50-60 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
| 131:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Fewkes-----                 | 0-12  | 17-28                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 12-17 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 17-22 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 22-28 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 28-40 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 40-50 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 50-60 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
| Heiners-----                | 0-3   | 10-20                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 3-8   | 10-20                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 8-12  | 10-15                          | ---                                         | 8.5-9.0          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 12-19 | 10-15                          | ---                                         | 8.5-9.0          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 132:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Fewkes-----                 | 0-12  | 17-28                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 12-17 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 17-22 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 22-28 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 28-40 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 40-50 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 50-60 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
| Hades-----                  | 0-3   | 15-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 3-18  | 15-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 18-33 | 15-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 33-44 | 15-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-60 | 15-25                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |



Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meg/100 g                      | meg/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 137:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Hades-----                  | 0-3   | 15-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 3-18  | 15-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 18-33 | 15-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 33-44 | 15-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-60 | 15-25                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
| Fewkes-----                 | 0-12  | 17-28                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 12-17 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 17-22 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 22-28 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 28-40 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 40-50 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 50-60 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
| 138:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Hades-----                  | 0-3   | 15-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 3-18  | 15-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 18-33 | 15-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 33-44 | 15-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-60 | 15-25                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
| Fewkes-----                 | 0-12  | 17-28                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 12-17 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 17-22 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 22-28 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 28-40 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 40-50 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 50-60 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
| 139:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Harter-----                 | 0-5   | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-12  | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-19 | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-24 | 25-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 24-33 | 25-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 33-60 | 30-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 140:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Heiners-----                | 0-3   | 10-20                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 3-8   | 10-20                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 8-12  | 10-15                          | ---                                         | 8.5-9.0          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 12-19 | 10-15                          | ---                                         | 8.5-9.0          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Fewkes-----                 | 0-12  | 17-28                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 12-17 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 17-22 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 22-28 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 28-40 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 40-50 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 50-60 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
| 141:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Heiners-----                | 0-3   | 10-20                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 3-8   | 10-20                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 8-12  | 10-15                          | ---                                         | 8.5-9.0          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 12-19 | 10-15                          | ---                                         | 8.5-9.0          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |



Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meq/100 g                      | meq/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 141:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Fewkes-----                 | 0-12  | 17-28                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 12-17 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 17-22 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 22-28 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 28-40 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 40-50 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 50-60 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
| Hades-----                  | 0-3   | 15-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 3-18  | 15-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 18-33 | 15-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 33-44 | 15-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-60 | 15-25                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
| 142:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Henefer-----                | 0-7   | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 7-12  | 18-28                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-21 | 27-42                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 21-30 | 20-40                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 30-37 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 37-43 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 43-50 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 50-60 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
| Harter-----                 | 0-5   | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-12  | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-19 | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-24 | 25-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 24-33 | 25-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 33-60 | 30-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 143:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Horrocks-----               | 0-10  | 15-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 10-19 | 18-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-32 | 15-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 32-40 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 40-59 | 10-20                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 59-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Agassiz-----                | 0-6   | 15-25                          | ---                                         | 7.4-8.4          | 0-3                       | 0      | 0          | 0                                  |
|                             | 6-14  | 15-25                          | ---                                         | 7.4-8.4          | 0-3                       | 0      | 0          | 0                                  |
|                             | 14-24 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 144:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Horrocks-----               | 0-10  | 15-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 10-19 | 18-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-32 | 15-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 32-40 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 40-59 | 10-20                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 59-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Cutoff-----                 | 0-1   | 15-20                          | ---                                         | 7.9-8.4          | 3-15                      | 0      | 0          | 0                                  |
|                             | 1-9   | 15-20                          | ---                                         | 7.9-8.4          | 3-15                      | 0      | 0          | 0                                  |
|                             | 9-16  | 10-20                          | ---                                         | 8.5-9.0          | 10-20                     | 0      | 0.0-2.0    | 0                                  |
|                             | 16-29 | 10-20                          | ---                                         | 8.5-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 29-38 | 10-20                          | ---                                         | 8.5-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 38-48 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |

Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meq/100 g                      | meq/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 145:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Horrocks-----               | 0-10  | 15-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 10-19 | 18-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-32 | 15-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 32-40 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 40-59 | 10-20                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 59-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Cutoff-----                 | 0-1   | 15-20                          | ---                                         | 7.9-8.4          | 3-15                      | 0      | 0          | 0                                  |
|                             | 1-9   | 15-20                          | ---                                         | 7.9-8.4          | 3-15                      | 0      | 0          | 0                                  |
|                             | 9-16  | 10-20                          | ---                                         | 8.5-9.0          | 10-20                     | 0      | 0.0-2.0    | 0                                  |
|                             | 16-29 | 10-20                          | ---                                         | 8.5-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 29-38 | 10-20                          | ---                                         | 8.5-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 38-48 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 146:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Horrocks-----               | 0-10  | 15-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 10-19 | 18-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-32 | 15-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 32-40 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 40-59 | 10-20                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 59-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Hades-----                  | 0-3   | 15-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 3-18  | 15-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 18-33 | 15-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 33-44 | 15-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-60 | 15-25                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
| 147:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Hovarka-----                | 0-4   | ---                            | ---                                         | ---              | 0                         | 0      | 0          | 0                                  |
|                             | 4-12  | 20-35                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-32 | 20-35                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 32-36 | 5.0-15                         | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 36-64 | 1.0-5.0                        | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
| Millcreek-----              | 0-14  | 20-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 14-24 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 24-60 | 0.0-10                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 148:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Jana-----                   | 0-1   | 10-17                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0          | 0                                  |
|                             | 1-6   | 10-15                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0          | 0                                  |
|                             | 6-12  | 10-15                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0          | 0                                  |
|                             | 12-22 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Richsum-----                | 0-2   | 15-25                          | ---                                         | 6.6-8.4          | 0-15                      | 0      | 0          | 0                                  |
|                             | 2-14  | 12-20                          | ---                                         | 7.4-8.4          | 3-15                      | 0      | 0          | 0                                  |
|                             | 14-23 | 10-20                          | ---                                         | 7.4-9.0          | 15-40                     | 0      | 0          | 0                                  |
|                             | 23-32 | 10-20                          | ---                                         | 7.4-9.0          | 15-40                     | 0      | 0          | 0                                  |
|                             | 32-52 | 10-20                          | ---                                         | 7.4-9.0          | 15-40                     | 0      | 0          | 0                                  |
|                             | 52-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Rock outcrop-----           | ---   | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 149:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Kovich-----                 | 0-9   | 22-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 9-22  | 15-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 22-29 | 15-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 29-44 | 10-17                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-60 | 0.0-10                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |

Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meq/100 g                      | meq/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 149:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Toddspan-----               | 0-4   | 20-38                          | ---                                         | 6.6-7.8          | 0-10                      | 0      | 0          | 0                                  |
|                             | 4-14  | 20-38                          | ---                                         | 6.6-7.8          | 0-10                      | 0      | 0          | 0                                  |
|                             | 14-19 | 20-38                          | ---                                         | 6.6-8.4          | 0-10                      | 0      | 0          | 0                                  |
|                             | 19-24 | 12-25                          | ---                                         | 6.6-8.4          | 0-10                      | 0      | 0          | 0                                  |
|                             | 24-32 | 12-25                          | ---                                         | 6.6-8.4          | 0-10                      | 0      | 0          | 0                                  |
|                             | 32-37 | 12-20                          | ---                                         | 6.6-8.4          | 0-10                      | 0      | 0          | 0                                  |
|                             | 37-44 | 12-20                          | ---                                         | 6.6-8.4          | 0-10                      | 0      | 0          | 0                                  |
|                             | 44-60 | 0.0-10                         | ---                                         | 6.6-8.4          | 0-10                      | 0      | 0          | 0                                  |
| 150:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Lucky Star-----             | 0-6   | 20-38                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-12  | 12-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-25 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 25-47 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 47-62 | 10-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 62-80 | 10-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 151:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Lucky Star-----             | 0-6   | 20-38                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-12  | 12-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-25 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 25-47 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 47-62 | 10-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 62-80 | 10-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 152:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Lucky Star-----             | 0-6   | 20-38                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-12  | 12-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-25 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 25-47 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 47-62 | 10-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 62-80 | 10-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| Dromedary-----              | 0-6   | 15-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-22  | 10-15                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 22-44 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-51 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 51-60 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 153:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Lucky Star-----             | 0-6   | 20-38                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-12  | 12-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-25 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 25-47 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 47-62 | 10-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 62-80 | 10-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| Fewkes-----                 | 0-12  | 17-28                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 12-17 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 17-22 | 17-25                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 22-28 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 28-40 | 15-25                          | ---                                         | 7.9-8.4          | 10-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 40-50 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |
|                             | 50-60 | 10-25                          | ---                                         | 7.9-9.0          | 15-40                     | 0      | 0.0-2.0    | 0                                  |

Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meq/100 g                      | meq/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 154:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Manila-----                 | 0-4   | 17-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 4-15  | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 15-22 | 25-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 22-40 | 25-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 40-46 | 25-37                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 46-60 | 25-37                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
| Ant Flat-----               | 0-13  | 20-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 13-19 | 20-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-30 | 28-42                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 30-45 | 20-28                          | ---                                         | 7.4-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 45-60 | 20-28                          | ---                                         | 7.4-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
| 155:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Manila-----                 | 0-4   | 17-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 4-15  | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 15-22 | 25-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 22-40 | 25-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 40-46 | 25-37                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 46-60 | 25-37                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
| Ant Flat-----               | 0-13  | 20-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 13-19 | 20-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-30 | 28-42                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 30-45 | 20-28                          | ---                                         | 7.4-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 45-60 | 20-28                          | ---                                         | 7.4-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
| 156:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Manila-----                 | 0-4   | 17-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 4-15  | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 15-22 | 25-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 22-40 | 25-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 40-46 | 25-37                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 46-60 | 25-37                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
| Harter-----                 | 0-5   | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-12  | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-19 | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-24 | 25-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 24-33 | 25-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 33-60 | 30-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 157:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Manila-----                 | 0-4   | 17-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 4-15  | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 15-22 | 25-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 22-40 | 25-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 40-46 | 25-37                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 46-60 | 25-37                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
| Henefer-----                | 0-7   | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 7-12  | 18-28                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-21 | 27-42                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 21-30 | 20-40                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 30-37 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 37-43 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 43-50 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 50-60 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |

Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meq/100 g                      | meq/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 158:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Melling-----                | 0-6   | 15-25                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-19  | 18-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Ayoub-----                  | 0-6   | 17-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-12  | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-18 | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 18-23 | 18-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 23-35 | 12-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 35-45 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Rock outcrop-----           | ---   | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 159:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Parkcity-----               | 0-5   | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-19  | 10-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-36 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 36-60 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| Dromedary-----              | 0-6   | 15-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-22  | 10-15                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 22-44 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-51 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 51-60 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 160:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Parkcity-----               | 0-5   | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-19  | 10-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-36 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 36-60 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| Dromedary-----              | 0-6   | 15-28                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 6-22  | 10-15                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 22-44 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-51 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 51-60 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 161:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Pits-----                   | ---   | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 162:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Richsum-----                | 0-2   | 15-25                          | ---                                         | 6.6-8.4          | 0-15                      | 0      | 0          | 0                                  |
|                             | 2-14  | 12-20                          | ---                                         | 7.4-8.4          | 3-15                      | 0      | 0          | 0                                  |
|                             | 14-23 | 10-20                          | ---                                         | 7.4-9.0          | 15-40                     | 0      | 0          | 0                                  |
|                             | 23-32 | 10-20                          | ---                                         | 7.4-9.0          | 15-40                     | 0      | 0          | 0                                  |
|                             | 32-52 | 10-20                          | ---                                         | 7.4-9.0          | 15-40                     | 0      | 0          | 0                                  |
|                             | 52-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Heiners-----                | 0-3   | 10-20                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 3-8   | 10-20                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 8-12  | 10-15                          | ---                                         | 8.5-9.0          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 12-19 | 10-15                          | ---                                         | 8.5-9.0          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 163:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Richsum-----                | 0-2   | 15-25                          | ---                                         | 6.6-8.4          | 0-15                      | 0      | 0          | 0                                  |
|                             | 2-14  | 12-20                          | ---                                         | 7.4-8.4          | 3-15                      | 0      | 0          | 0                                  |
|                             | 14-23 | 10-20                          | ---                                         | 7.4-9.0          | 15-40                     | 0      | 0          | 0                                  |
|                             | 23-32 | 10-20                          | ---                                         | 7.4-9.0          | 15-40                     | 0      | 0          | 0                                  |
|                             | 32-52 | 10-20                          | ---                                         | 7.4-9.0          | 15-40                     | 0      | 0          | 0                                  |
|                             | 52-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |

Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meq/100 g                      | meq/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 163:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Heiners-----                | 0-3   | 10-20                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 3-8   | 10-20                          | ---                                         | 7.9-8.4          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 8-12  | 10-15                          | ---                                         | 8.5-9.0          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 12-19 | 10-15                          | ---                                         | 8.5-9.0          | 15-30                     | 0      | 0.0-2.0    | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 164:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Rock outcrop-----           | ---   | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Agassiz-----                | 0-6   | 15-25                          | ---                                         | 7.4-8.4          | 0-3                       | 0      | 0          | 0                                  |
|                             | 6-14  | 15-25                          | ---                                         | 7.4-8.4          | 0-3                       | 0      | 0          | 0                                  |
|                             | 14-24 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Starley Family-----         | 0-6   | 10-25                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 6-15  | 10-20                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 15-19 | 10-20                          | ---                                         | 6.6-8.4          | 0-3                       | 0      | 0          | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Hades-----                  | 0-3   | 15-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 3-18  | 15-30                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 18-33 | 15-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 33-44 | 15-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-60 | 15-25                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
| Parkcity-----               | 0-5   | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-19  | 10-20                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 19-36 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 36-60 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 165:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Rock outcrop-----           | ---   | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Starley Family-----         | 0-6   | 10-25                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 6-15  | 10-20                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 15-19 | 10-20                          | ---                                         | 6.6-8.4          | 0-3                       | 0      | 0          | 0                                  |
|                             | 19-29 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 166:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Sessions-----               | 0-8   | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 8-15  | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 15-48 | 28-35                          | ---                                         | 6.1-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 48-52 | 20-30                          | ---                                         | 6.1-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 52-60 | 20-30                          | ---                                         | 7.4-7.8          | 10-30                     | 0      | 0          | 0                                  |
| Haydenfork-----             | 0-3   | ---                            | ---                                         | ---              | 0                         | 0      | 0          | 0                                  |
|                             | 3-9   | 25-35                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 9-17  | 20-30                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 17-21 | 18-28                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 21-25 | 15-25                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 25-36 | 10-20                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 36-55 | 10-20                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 55-63 | 10-20                          | ---                                         | 5.6-6.5          | 0                         | 0      | 0          | 0                                  |
| 167:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Sessions-----               | 0-8   | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 8-15  | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 15-48 | 28-35                          | ---                                         | 6.1-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 48-52 | 20-30                          | ---                                         | 6.1-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 52-60 | 20-30                          | ---                                         | 7.4-7.8          | 10-30                     | 0      | 0          | 0                                  |

Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meg/100 g                      | meg/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 167:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Skutum-----                 | 0-5   | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-17  | 15-27                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 17-32 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 32-44 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-48 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 48-56 | 10-17                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 56-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 168:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Sessions-----               | 0-8   | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 8-15  | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 15-48 | 28-35                          | ---                                         | 6.1-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 48-52 | 20-30                          | ---                                         | 6.1-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 52-60 | 20-30                          | ---                                         | 7.4-7.8          | 10-30                     | 0      | 0          | 0                                  |
| Uinta-----                  | 0-13  | 8.0-18                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 13-23 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 23-35 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 35-50 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 50-60 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 169:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Skutum-----                 | 0-5   | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-17  | 15-27                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 17-32 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 32-44 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-48 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 48-56 | 10-17                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 56-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 170:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Skutum-----                 | 0-5   | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-17  | 15-27                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 17-32 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 32-44 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-48 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 48-56 | 10-17                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 56-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 171:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Skutum-----                 | 0-5   | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-17  | 15-27                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 17-32 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 32-44 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-48 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 48-56 | 10-17                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 56-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| 172:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Skutum-----                 | 0-5   | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-17  | 15-27                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 17-32 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 32-44 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-48 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 48-56 | 10-17                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 56-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |

Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meq/100 g                      | meq/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 172:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Uinta-----                  | 0-13  | 8.0-18                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 13-23 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 23-35 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 35-50 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 50-60 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 173:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Skutum-----                 | 0-5   | 20-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 5-17  | 15-27                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 17-32 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 32-44 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-48 | 25-35                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 48-56 | 10-17                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 56-60 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Uinta-----                  | 0-13  | 8.0-18                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 13-23 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 23-35 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 35-50 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 50-60 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 174:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Snyderville-----            | 0-10  | 10-25                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
|                             | 10-16 | 10-20                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
|                             | 16-28 | 10-20                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
|                             | 28-35 | 0.0-10                         | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
|                             | 35-60 | 0.0-5.0                        | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
| 175:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Snyderville-----            | 0-10  | 10-25                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
|                             | 10-16 | 10-20                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
|                             | 16-28 | 10-20                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
|                             | 28-35 | 0.0-10                         | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
|                             | 35-60 | 0.0-5.0                        | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
| 176:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Snyderville-----            | 0-10  | 10-25                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
|                             | 10-16 | 10-20                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
|                             | 16-28 | 10-20                          | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
|                             | 28-35 | 0.0-10                         | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
|                             | 35-60 | 0.0-5.0                        | ---                                         | 6.6-7.8          | 0-3                       | 0      | 0          | 0                                  |
| 177:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Uinta-----                  | 0-13  | 8.0-18                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 13-23 | 5.0-15                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 23-35 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 35-50 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 50-60 | 15-25                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| Duchesne-----               | 0-4   | 15-25                          | ---                                         | 5.1-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 4-11  | 15-25                          | ---                                         | 5.1-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 11-18 | 15-25                          | ---                                         | 5.1-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 18-30 | 15-25                          | ---                                         | 5.1-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 30-42 | 15-25                          | ---                                         | 5.1-6.5          | 0                         | 0      | 0          | 0                                  |
|                             | 42-60 | 15-25                          | ---                                         | 5.1-6.5          | 0                         | 0      | 0          | 0                                  |



Table 17.--Chemical properties of the soils--continued

| Map symbol<br>and soil name | Depth | Cation<br>exchange<br>capacity | Effective<br>cation<br>exchange<br>capacity | Soil<br>reaction | Calcium<br>carbon-<br>ate | Gypsum | Salinity   | Sodium<br>adsorp-<br>tion<br>ratio |
|-----------------------------|-------|--------------------------------|---------------------------------------------|------------------|---------------------------|--------|------------|------------------------------------|
|                             | In.   | meq/100 g                      | meq/100 g                                   | pH               | Pct.                      | Pct.   | mmhos./cm. |                                    |
| 178:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Wanship-----                | 0-8   | 20-38                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 8-14  | 12-28                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 14-24 | 12-28                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 24-26 | 0.0-5.0                        | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 26-60 | 0.0-5.0                        | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
| 179:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Wanship-----                | 0-8   | 20-38                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 8-14  | 12-28                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 14-24 | 12-28                          | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 24-26 | 0.0-5.0                        | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
|                             | 26-60 | 0.0-5.0                        | ---                                         | 6.6-8.4          | 0                         | 0      | 0          | 0                                  |
| Kovich-----                 | 0-9   | 22-37                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 9-22  | 15-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 22-29 | 15-32                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 29-44 | 10-17                          | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 44-60 | 0.0-10                         | ---                                         | 6.1-7.3          | 0                         | 0      | 0          | 0                                  |
| 180:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Yeates Hollow-----          | 0-12  | 15-30                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-25 | 30-42                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 25-37 | 30-42                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 37-43 | 25-30                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 43-53 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Henefer-----                | 0-7   | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 7-12  | 18-28                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-21 | 27-42                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 21-30 | 20-40                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 30-37 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 37-43 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 43-50 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 50-60 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
| 181:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Yeates Hollow-----          | 0-12  | 15-30                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-25 | 30-42                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 25-37 | 30-42                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 37-43 | 25-30                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 43-53 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |
| Henefer-----                | 0-7   | 20-30                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 7-12  | 18-28                          | ---                                         | 6.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-21 | 27-42                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 21-30 | 20-40                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 30-37 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 37-43 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 43-50 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
|                             | 50-60 | 20-30                          | ---                                         | 6.6-7.8          | 0                         | 0      | 0          | 0                                  |
| 182:                        |       |                                |                                             |                  |                           |        |            |                                    |
| Yeates Hollow-----          | 0-12  | 15-30                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 12-25 | 30-42                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 25-37 | 30-42                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 37-43 | 25-30                          | ---                                         | 5.6-7.3          | 0                         | 0      | 0          | 0                                  |
|                             | 43-53 | ---                            | ---                                         | ---              | ---                       | ---    | ---        | ---                                |

Table 17.--Chemical properties of the soils--continued

[illegible]

Table 18.--Water features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

| Map symbol<br>and soil name | Hydro-<br>logic<br>group | Month   | Water table    |                | Surface<br>water<br>depth | Ponding  |           | Flooding |           |
|-----------------------------|--------------------------|---------|----------------|----------------|---------------------------|----------|-----------|----------|-----------|
|                             |                          |         | Upper<br>limit | Lower<br>limit |                           | Duration | Frequency | Duration | Frequency |
|                             |                          |         | Ft.            | Ft.            | Ft.                       |          |           |          |           |
| 101:                        |                          |         |                |                |                           |          |           |          |           |
| Agassiz-----                | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Rock outcrop-----           | ---                      | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 102:                        |                          |         |                |                |                           |          |           |          |           |
| Ant Flat-----               | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 103:                        |                          |         |                |                |                           |          |           |          |           |
| Ant Flat-----               | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 104:                        |                          |         |                |                |                           |          |           |          |           |
| Ant Flat-----               | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 105:                        |                          |         |                |                |                           |          |           |          |           |
| Ant Flat-----               | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Henefer-----                | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Skutum-----                 | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 106:                        |                          |         |                |                |                           |          |           |          |           |
| Ayoub-----                  | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 107:                        |                          |         |                |                |                           |          |           |          |           |
| Ayoub-----                  | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Dunford-----                | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Melling-----                | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 108:                        |                          |         |                |                |                           |          |           |          |           |
| Ayoub-----                  | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Dunford-----                | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Melling-----                | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 109:                        |                          |         |                |                |                           |          |           |          |           |
| Cluff-----                  | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 110:                        |                          |         |                |                |                           |          |           |          |           |
| Cluff-----                  | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 111:                        |                          |         |                |                |                           |          |           |          |           |
| Crandall-----               | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 112:                        |                          |         |                |                |                           |          |           |          |           |
| Crandall-----               | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Lucky Star-----             | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 113:                        |                          |         |                |                |                           |          |           |          |           |
| Crandall-----               | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Lucky Star-----             | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Starley Family-----         | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |

Table 18.--Water features--continued

| Map symbol<br>and soil name | Hydro-<br>logic<br>group | Month   | Water table    |                | Surface<br>water<br>depth | Ponding  |            | Flooding |            |
|-----------------------------|--------------------------|---------|----------------|----------------|---------------------------|----------|------------|----------|------------|
|                             |                          |         | Upper<br>limit | Lower<br>limit |                           | Duration | Frequency  | Duration | Frequency  |
|                             |                          |         | <u>Ft.</u>     | <u>Ft.</u>     | <u>Ft.</u>                |          |            |          |            |
| 114:<br>Crandall-----       | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| Starley Family-----         | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| Rock outcrop-----           | ---                      | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| 115:<br>Dastrup-----        | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| 116:<br>Dastrup-----        | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| 117:<br>Dastrup-----        | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| 118:<br>Dromedary-----      | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| Rock outcrop-----           | ---                      | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| 119:<br>Duchesne-----       | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| 120:<br>Duchesne-----       | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| 121:<br>Duchesne-----       | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| 122:<br>Duchesne-----       | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| Haydenfork-----             | D                        | April   | 0.8-1.6        | >6.0           | 0.7-1.3                   | Brief    | Occasional | ---      | None       |
|                             |                          | May     | 0.8-1.6        | >6.0           | 0.7-1.3                   | Brief    | Occasional | ---      | None       |
|                             |                          | June    | 0.8-1.6        | >6.0           | 0.7-1.3                   | Brief    | Occasional | ---      | None       |
| 123:<br>Dumps, Mines-----   | ---                      | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| 124:<br>Dunford-----        | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| Ayoub-----                  | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| Melling-----                | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| 125:<br>Dunford-----        | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| Ayoub-----                  | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| Melling-----                | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| 126:<br>Echocreek-----      | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| 127:<br>Echocreek-----      | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None       |
| Kovich-----                 | D                        | April   | 1.0-2.0        | >6.0           | ---                       | ---      | None       | Brief    | Rare       |
|                             |                          | May     | 1.0-2.0        | >6.0           | ---                       | ---      | None       | Brief    | Occasional |
|                             |                          | June    | 1.0-2.0        | >6.0           | ---                       | ---      | None       | ---      | None       |

Table 18.--Water features--continued

| Map symbol<br>and soil name | Hydro-<br>logic<br>group | Month   | Water table    |                | Surface<br>water<br>depth | Ponding  |           | Flooding |           |
|-----------------------------|--------------------------|---------|----------------|----------------|---------------------------|----------|-----------|----------|-----------|
|                             |                          |         | Upper<br>limit | Lower<br>limit |                           | Duration | Frequency | Duration | Frequency |
|                             |                          |         | Ft.            | Ft.            | Ft.                       |          |           |          |           |
| 128:<br>Fewkes-----         | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 129:<br>Fewkes-----         | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 130:<br>Fewkes-----         | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 131:<br>Fewkes-----         | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Heiners-----                | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 132:<br>Fewkes-----         | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Hades-----                  | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 133:<br>Fewkes-----         | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Hades-----                  | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 134:<br>Fewkes-----         | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Yeates Hollow-----          | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 135:<br>Fewkes-----         | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Yeates Hollow-----          | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 136:<br>Hades-----          | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Agassiz-----                | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Rock outcrop-----           | ---                      | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 137:<br>Hades-----          | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Fewkes-----                 | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 138:<br>Hades-----          | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Fewkes-----                 | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 139:<br>Harter-----         | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 140:<br>Heiners-----        | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Fewkes-----                 | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 141:<br>Heiners-----        | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Fewkes-----                 | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |

Table 18.--Water features--continued

| Map symbol<br>and soil name | Hydro-<br>logic<br>group | Month     | Water table    |                | Surface<br>water<br>depth | Ponding  |           | Flooding |            |
|-----------------------------|--------------------------|-----------|----------------|----------------|---------------------------|----------|-----------|----------|------------|
|                             |                          |           | Upper<br>limit | Lower<br>limit |                           | Duration | Frequency | Duration | Frequency  |
|                             |                          |           | <u>Ft.</u>     | <u>Ft.</u>     | <u>Ft.</u>                |          |           |          |            |
| 141:<br>Hades-----          | C                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| 142:<br>Henefer-----        | C                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| Harter-----                 | C                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| 143:<br>Horrocks-----       | B                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| Agassiz-----                | D                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| 144:<br>Horrocks-----       | B                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| Cutoff-----                 | B                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| 145:<br>Horrocks-----       | B                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| Cutoff-----                 | B                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| 146:<br>Horrocks-----       | B                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| Hades-----                  | C                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| 147:<br>Hovarka-----        | D                        | January   | 0.8-1.6        | >6.0           | ---                       | ---      | None      | ---      | None       |
|                             |                          | February  | 0.8-1.6        | >6.0           | ---                       | ---      | None      | ---      | None       |
|                             |                          | March     | 0.8-1.6        | >6.0           | ---                       | ---      | None      | Brief    | Frequent   |
|                             |                          | April     | 0.8-1.6        | >6.0           | ---                       | ---      | None      | Brief    | Frequent   |
|                             |                          | May       | 0.8-1.6        | >6.0           | ---                       | ---      | None      | Brief    | Frequent   |
|                             |                          | June      | 0.8-1.6        | >6.0           | ---                       | ---      | None      | ---      | None       |
|                             |                          | July      | 0.8-1.6        | >6.0           | ---                       | ---      | None      | ---      | None       |
|                             |                          | August    | 0.8-1.6        | >6.0           | ---                       | ---      | None      | ---      | None       |
|                             |                          | September | 0.8-1.6        | >6.0           | ---                       | ---      | None      | ---      | None       |
|                             |                          | October   | 0.8-1.6        | >6.0           | ---                       | ---      | None      | ---      | None       |
|                             |                          | November  | 0.8-1.6        | >6.0           | ---                       | ---      | None      | ---      | None       |
|                             |                          | December  | 0.8-1.6        | >6.0           | ---                       | ---      | None      | ---      | None       |
| Millcreek-----              | B                        | March     | 3.3-4.9        | >6.0           | ---                       | ---      | None      | Brief    | Rare       |
|                             |                          | April     | 3.3-4.9        | >6.0           | ---                       | ---      | None      | Brief    | Rare       |
|                             |                          | May       | 3.3-4.9        | >6.0           | ---                       | ---      | None      | Brief    | Rare       |
| 148:<br>Jana-----           | D                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| Richsum-----                | B                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| Rock outcrop-----           | ---                      | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| 149:<br>Kovich-----         | D                        | April     | 1.0-2.0        | >6.0           | ---                       | ---      | None      | Brief    | Rare       |
|                             |                          | May       | 1.0-2.0        | >6.0           | ---                       | ---      | None      | Brief    | Occasional |
| Toddspan-----               | D                        | March     | ---            | ---            | ---                       | ---      | None      | Brief    | Rare       |
|                             |                          | April     | 0.8-1.6        | >6.0           | ---                       | ---      | None      | Brief    | Occasional |
|                             |                          | May       | 0.8-1.6        | >6.0           | ---                       | ---      | None      | Brief    | Occasional |
|                             |                          | June      | 0.8-1.6        | >6.0           | ---                       | ---      | None      | Brief    | Rare       |
| 150:<br>Lucky Star-----     | B                        | Jan-Dec   | ---            | ---            | ---                       | ---      | None      | ---      | None       |

Table 18.--Water features--continued

| Map symbol<br>and soil name | Hydro-<br>logic<br>group | Month   | Water table    |                | Surface<br>water<br>depth | Ponding  |           | Flooding |           |
|-----------------------------|--------------------------|---------|----------------|----------------|---------------------------|----------|-----------|----------|-----------|
|                             |                          |         | Upper<br>limit | Lower<br>limit |                           | Duration | Frequency | Duration | Frequency |
|                             |                          |         | Ft.            | Ft.            | Ft.                       |          |           |          |           |
| 151:<br>Lucky Star-----     | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 152:<br>Lucky Star-----     | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Dromedary-----              | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 153:<br>Lucky Star-----     | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Fewkes-----                 | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 154:<br>Manila-----         | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Ant Flat-----               | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 155:<br>Manila-----         | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Ant Flat-----               | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 156:<br>Manila-----         | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Harter-----                 | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 157:<br>Manila-----         | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Henefer-----                | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 158:<br>Melling-----        | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Ayoub-----                  | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Rock outcrop-----           | ---                      | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 159:<br>Parkcity-----       | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Dromedary-----              | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 160:<br>Parkcity-----       | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Dromedary-----              | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 161:<br>Pits, Gravel-----   | ---                      | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 162:<br>Richsum-----        | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Heiners-----                | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| 163:<br>Richsum-----        | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |
| Heiners-----                | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None      |

Table 18.--Water features--continued

| Map symbol<br>and soil name | Hydro-<br>logic<br>group | Month   | Water table    |                | Surface<br>water<br>depth | Ponding  |            | Flooding |           |
|-----------------------------|--------------------------|---------|----------------|----------------|---------------------------|----------|------------|----------|-----------|
|                             |                          |         | Upper<br>limit | Lower<br>limit |                           | Duration | Frequency  | Duration | Frequency |
|                             |                          |         | Ft.            | Ft.            | Ft.                       |          |            |          |           |
| 164:<br>Rock outcrop-----   | ---                      | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 165:<br>Rock outcrop-----   | ---                      | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| Starley Family-----         | D                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 166:<br>Sessions-----       | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| Haydenfork-----             | D                        | April   | 0.0-1.6        | >6.0           | 0.7-1.3                   | Brief    | Occasional | ---      | None      |
|                             |                          | May     | 0.0-1.6        | >6.0           | 0.7-1.3                   | Brief    | Occasional | ---      | None      |
|                             |                          | June    | 0.0-1.6        | >6.0           | 0.7-1.3                   | Brief    | Occasional | ---      | None      |
| 167:<br>Sessions-----       | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| Skutum-----                 | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 168:<br>Sessions-----       | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| Uinta-----                  | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 169:<br>Skutum-----         | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 170:<br>Skutum-----         | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 171:<br>Skutum-----         | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 172:<br>Skutum-----         | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| Uinta-----                  | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 173:<br>Skutum-----         | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| Uinta-----                  | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 174:<br>Snyderville-----    | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 175:<br>Snyderville-----    | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 176:<br>Snyderville-----    | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 177:<br>Uinta-----          | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| Duchesne-----               | B                        | Jan-Dec | ---            | ---            | ---                       | ---      | None       | ---      | None      |
| 178:<br>Wanship-----        | C                        | March   | ---            | ---            | ---                       | ---      | None       | Brief    | Very rare |
|                             |                          | April   | 1.6-2.5        | >6.0           | ---                       | ---      | None       | Brief    | Rare      |
|                             |                          | May     | 1.6-2.5        | >6.0           | ---                       | ---      | None       | Brief    | Rare      |



Table 18.--Water features--continued

| Map symbol<br>and soil name | Hydro-<br>logic<br>group | Month   | Water table    |                | Ponding                   |          |           | Flooding |            |
|-----------------------------|--------------------------|---------|----------------|----------------|---------------------------|----------|-----------|----------|------------|
|                             |                          |         | Upper<br>limit | Lower<br>limit | Surface<br>water<br>depth | Duration | Frequency | Duration | Frequency  |
|                             |                          |         | <u>Ft.</u>     | <u>Ft.</u>     | <u>Ft.</u>                |          |           |          |            |
| 179:                        |                          |         |                |                |                           |          |           |          |            |
| Wanship-----                | C                        | March   | ---            | ---            | ---                       | ---      | None      | Brief    | Very rare  |
|                             |                          | April   | 3.0-5.0        | >6.0           | ---                       | ---      | None      | Brief    | Rare       |
|                             |                          | May     | 1.6-2.5        | >6.0           | ---                       | ---      | None      | Brief    | Rare       |
| Kovich-----                 | D                        | April   | 1.0-2.0        | >6.0           | ---                       | ---      | None      | Brief    | Rare       |
|                             |                          | May     | 1.0-2.0        | >6.0           | ---                       | ---      | None      | Brief    | Occasional |
| 180:                        |                          |         |                |                |                           |          |           |          |            |
| Yeates Hollow-----          | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| Henefer-----                | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| 181:                        |                          |         |                |                |                           |          |           |          |            |
| Yeates Hollow-----          | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| Henefer-----                | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| 182:                        |                          |         |                |                |                           |          |           |          |            |
| Yeates Hollow-----          | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| Henefer-----                | C                        | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| 183:                        |                          |         |                |                |                           |          |           |          |            |
| Water-----                  | ---                      | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None       |
| 184:                        |                          |         |                |                |                           |          |           |          |            |
| Dams-----                   | ---                      | Jan-Dec | ---            | ---            | ---                       | ---      | None      | ---      | None       |

Table 19.--Soil features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

| Map symbol<br>and soil name | Restrictive layer       |                 |           |                        | Subsidence |       | Potential<br>for<br>frost action | Risk of corrosion |          |
|-----------------------------|-------------------------|-----------------|-----------|------------------------|------------|-------|----------------------------------|-------------------|----------|
|                             | Kind                    | Depth<br>to top | Thickness | Hardness               | Initial    | Total |                                  | Uncoated<br>steel | Concrete |
|                             |                         | In.             | In.       |                        | In.        | In.   |                                  |                   |          |
| 101:                        |                         |                 |           |                        |            |       |                                  |                   |          |
| Agassiz-----                | Bedrock (lithic)        | 10-20           | ---       | Indurated              | 0          | ---   | Moderate                         | High              | Low      |
| Rock outcrop-----           | ---                     | ---             | ---       | ---                    | ---        | ---   | ---                              | ---               | ---      |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---       | Indurated              | 0          | ---   | Moderate                         | High              | Low      |
| Hades-----                  | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | Moderate          | Low      |
| 102:                        |                         |                 |           |                        |            |       |                                  |                   |          |
| Ant Flat-----               | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Moderate |
| Dastrup-----                | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Moderate |
| Manila-----                 | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Low      |
| Fewkes-----                 | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Moderate |
| Henefer-----                | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | Moderate          | Low      |
| 103:                        |                         |                 |           |                        |            |       |                                  |                   |          |
| Ant Flat-----               | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Moderate |
| Dastrup-----                | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Moderate |
| Manila-----                 | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Low      |
| Fewkes-----                 | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Moderate |
| Henefer-----                | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | Moderate          | Low      |
| 104:                        |                         |                 |           |                        |            |       |                                  |                   |          |
| Ant Flat-----               | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Moderate |
| Henefer-----                | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Low      |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---       | Indurated              | 0          | ---   | Moderate                         | High              | Moderate |
| 105:                        |                         |                 |           |                        |            |       |                                  |                   |          |
| Ant Flat-----               | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Moderate |
| Henefer-----                | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Low      |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---       | Moderately<br>cemented | 0          | ---   | Moderate                         | Moderate          | Low      |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---       | Indurated              | 0          | ---   | Moderate                         | High              | Moderate |
| Fewkes-----                 | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Moderate |
| Harter-----                 | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | Moderate          | Low      |
| 106:                        |                         |                 |           |                        |            |       |                                  |                   |          |
| Ayoub-----                  | Bedrock (lithic)        | 20-40           | ---       | Indurated              | 0          | ---   | Moderate                         | Moderate          | Low      |
| Ant Flat-----               | ---                     | ---             | ---       | ---                    | 0          | ---   | Moderate                         | High              | Moderate |
| Dunford-----                | Bedrock (lithic)        | 20-40           | ---       | Indurated              | 0          | ---   | Moderate                         | Moderate          | Low      |
| Melling-----                | Bedrock (lithic)        | 12-20           | ---       | Indurated              | 0          | ---   | Moderate                         | Moderate          | Low      |

[illegible]

Table 19.--Soil features--continued

| Map symbol<br>and soil name | Restrictive layer       |                 |            |                        | Subsidence |            | Potential<br>for<br>frost action | Risk of corrosion |          |
|-----------------------------|-------------------------|-----------------|------------|------------------------|------------|------------|----------------------------------|-------------------|----------|
|                             | Kind                    | Depth<br>to top | Thickness  | Hardness               | Initial    | Total      |                                  | Uncoated<br>steel | Concrete |
| 113:                        |                         | <u>In.</u>      | <u>In.</u> |                        | <u>In.</u> | <u>In.</u> |                                  |                   |          |
| Crandall-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Starley Family-----         | Bedrock (lithic)        | 10-20           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Rock outcrop-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| 114:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Crandall-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Starley Family-----         | Bedrock (lithic)        | 10-20           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Rock outcrop-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| Dromedary-----              | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| 115:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Dastrup-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Richsum-----                | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Cutoff-----                 | Bedrock (lithic)        | 20-40           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| 116:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Dastrup-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Cutoff-----                 | Bedrock (lithic)        | 20-40           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Richsum-----                | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| 117:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Dastrup-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Cutoff-----                 | Bedrock (lithic)        | 22-40           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Richsum-----                | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| 118:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Dromedary-----              | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Rock outcrop-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| Parkcity-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Starley Family-----         | Bedrock (lithic)        | 10-20           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Crandall-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |

Table 19.--Soil features--continued

| Map symbol<br>and soil name | Restrictive layer       |                 |            |                        | Subsidence |            | Potential<br>for<br>frost action | Risk of corrosion |          |
|-----------------------------|-------------------------|-----------------|------------|------------------------|------------|------------|----------------------------------|-------------------|----------|
|                             | Kind                    | Depth<br>to top | Thickness  | Hardness               | Initial    | Total      |                                  | Uncoated<br>steel | Concrete |
| 119:                        |                         | <u>In.</u>      | <u>In.</u> |                        | <u>In.</u> | <u>In.</u> |                                  |                   |          |
| Duchesne-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| 120:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Duchesne-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| 121:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Duchesne-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| 122:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Duchesne-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| 123:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Dumps, Mines-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| 124:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Dunford-----                | Bedrock (lithic)        | 20-40           | ---        | Indurated              | 0          | ---        | Moderate                         | Moderate          | Low      |
| Ayoub-----                  | Bedrock (lithic)        | 20-40           | ---        | Indurated              | 0          | ---        | Moderate                         | Moderate          | Low      |
| Melling-----                | Bedrock (lithic)        | 12-20           | ---        | Indurated              | 0          | ---        | Moderate                         | Moderate          | Low      |
| Rock outcrop-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Echocreek-----              | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |

Table 19.--Soil features--continued

| Map symbol<br>and soil name | Restrictive layer |                 |            |           | Subsidence |            | Potential<br>for<br>frost action | Risk of corrosion |          |
|-----------------------------|-------------------|-----------------|------------|-----------|------------|------------|----------------------------------|-------------------|----------|
|                             | Kind              | Depth<br>to top | Thickness  | Hardness  | Initial    | Total      |                                  | Uncoated<br>steel | Concrete |
|                             |                   | <u>In.</u>      | <u>In.</u> |           | <u>In.</u> | <u>In.</u> |                                  |                   |          |
| 124:<br>Fewkes-----         | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| 125:<br>Dunford-----        | Bedrock (lithic)  | 20-40           | ---        | Indurated | 0          | ---        | Moderate                         | Moderate          | Low      |
| Ayoub-----                  | Bedrock (lithic)  | 20-40           | ---        | Indurated | 0          | ---        | Moderate                         | Moderate          | Low      |
| Melling-----                | Bedrock (lithic)  | 12-20           | ---        | Indurated | 0          | ---        | Moderate                         | Moderate          | Low      |
| Rock outcrop-----           | ---               | ---             | ---        | ---       | ---        | ---        | ---                              | ---               | ---      |
| Hades-----                  | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | Moderate          | Low      |
| Echocreek-----              | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| Fewkes-----                 | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| 126:<br>Echocreek-----      | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| Kovich-----                 | ---               | ---             | ---        | ---       | 0          | ---        | High                             | Moderate          | Low      |
| Snyderville-----            | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| Toddspan-----               | ---               | ---             | ---        | ---       | 0          | ---        | High                             | High              | Moderate |
| Wanship-----                | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| Dastrup-----                | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| 127:<br>Echocreek-----      | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| Kovich-----                 | ---               | ---             | ---        | ---       | 0          | ---        | High                             | Moderate          | Low      |
| Toddspan-----               | ---               | ---             | ---        | ---       | 0          | ---        | High                             | High              | Moderate |
| Wanship-----                | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| 128:<br>Fewkes-----         | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| Hades-----                  | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | Moderate          | Low      |
| Lucky Star-----             | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | Moderate          | Low      |
| Yeates Hollow-----          | Bedrock (lithic)  | 40-60           | ---        | Indurated | 0          | ---        | Moderate                         | High              | Moderate |
| 129:<br>Fewkes-----         | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |
| Hades-----                  | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | Moderate          | Low      |
| Lucky Star-----             | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | Moderate          | Low      |
| Yeates Hollow-----          | Bedrock (lithic)  | 40-60           | ---        | Indurated | 0          | ---        | Moderate                         | High              | Moderate |
| 130:<br>Fewkes-----         | ---               | ---             | ---        | ---       | 0          | ---        | Moderate                         | High              | Moderate |

Table 19.--Soil features--continued

| Map symbol<br>and soil name | Restrictive layer       |                 |            |                        | Subsidence |            | Potential<br>for<br>frost action | Risk of corrosion |          |
|-----------------------------|-------------------------|-----------------|------------|------------------------|------------|------------|----------------------------------|-------------------|----------|
|                             | Kind                    | Depth<br>to top | Thickness  | Hardness               | Initial    | Total      |                                  | Uncoated<br>steel | Concrete |
|                             |                         | <u>In.</u>      | <u>In.</u> |                        | <u>In.</u> | <u>In.</u> |                                  |                   |          |
| 130:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| 131:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Heiners-----                | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Rock outcrop-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Richsum-----                | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| 132:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| 133:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| 134:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Heiners-----                | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Richsum-----                | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |

Table 19.--Soil features--continued

| Map symbol<br>and soil name | Restrictive layer       |                 |            |                        | Subsidence |            | Potential<br>for<br>frost action | Risk of corrosion |          |
|-----------------------------|-------------------------|-----------------|------------|------------------------|------------|------------|----------------------------------|-------------------|----------|
|                             | Kind                    | Depth<br>to top | Thickness  | Hardness               | Initial    | Total      |                                  | Uncoated<br>steel | Concrete |
|                             |                         | <u>In.</u>      | <u>In.</u> |                        | <u>In.</u> | <u>In.</u> |                                  |                   |          |
| 135:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Heiners-----                | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Richsum-----                | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| 136:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Agassiz-----                | Bedrock (lithic)        | 10-20           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Rock outcrop-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| 137:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| 138:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| 139:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Harter-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Henefer-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Snyderville-----            | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |



Table 19.--Soil features--continued

| Map symbol<br>and soil name | Restrictive layer       |                 |            |                        | Subsidence |            | Potential<br>for<br>frost action | Risk of corrosion |          |
|-----------------------------|-------------------------|-----------------|------------|------------------------|------------|------------|----------------------------------|-------------------|----------|
|                             | Kind                    | Depth<br>to top | Thickness  | Hardness               | Initial    | Total      |                                  | Uncoated<br>steel | Concrete |
| 140:                        |                         | <u>In.</u>      | <u>In.</u> |                        | <u>In.</u> | <u>In.</u> |                                  |                   |          |
| Heiners-----                | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| 141:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Heiners-----                | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Rock outcrop-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Richsum-----                | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| 142:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Henefer-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Harter-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| 143:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Agassiz-----                | Bedrock (lithic)        | 10-20           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Harter-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| 144:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Cutoff-----                 | Bedrock (lithic)        | 20-40           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Harter-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Heiners-----                | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| 145:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |

Table 19.--Soil features--continued

| Map symbol<br>and soil name              | Restrictive layer       |                 |            |                        | Subsidence |            | Potential<br>for<br>frost action | Risk of corrosion |          |
|------------------------------------------|-------------------------|-----------------|------------|------------------------|------------|------------|----------------------------------|-------------------|----------|
|                                          | Kind                    | Depth<br>to top | Thickness  | Hardness               | Initial    | Total      |                                  | Uncoated<br>steel | Concrete |
| 145:                                     |                         | <u>In.</u>      | <u>In.</u> |                        | <u>In.</u> | <u>In.</u> |                                  |                   |          |
| Cutoff-----                              | Bedrock (lithic)        | 20-40           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Hades-----                               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Harter-----                              | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Heiners-----                             | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| 146:                                     |                         |                 |            |                        |            |            |                                  |                   |          |
| Horrocks-----                            | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Hades-----                               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Cutoff-----                              | Bedrock (lithic)        | 20-40           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Heiners-----                             | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Yeates Hollow-----                       | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| 147:                                     |                         |                 |            |                        |            |            |                                  |                   |          |
| Hovarka-----                             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Low      |
| Millcreek-----                           | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Low      |
| Haydenfork-----                          | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| Duchesne-----                            | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| 148:                                     |                         |                 |            |                        |            |            |                                  |                   |          |
| Jana-----                                | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Richsum-----                             | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Rock outcrop-----                        | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| Cutoff-----                              | Bedrock (lithic)        | 20-40           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Heiners-----                             | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| 149:                                     |                         |                 |            |                        |            |            |                                  |                   |          |
| Kovich-----                              | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Low      |
| Toddspan-----                            | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | High              | Moderate |
| Wanship-----                             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Poorly Drained,<br>Calcareous Soils----- | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| 150:                                     |                         |                 |            |                        |            |            |                                  |                   |          |
| Lucky Star-----                          | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Crandall-----                            | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Dromedary-----                           | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Parkcity-----                            | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |

Table 19.--Soil features--continued

| Map symbol<br>and soil name | Restrictive layer       |                 |            |                        | Subsidence |            | Potential<br>for<br>frost action | Risk of corrosion |          |
|-----------------------------|-------------------------|-----------------|------------|------------------------|------------|------------|----------------------------------|-------------------|----------|
|                             | Kind                    | Depth<br>to top | Thickness  | Hardness               | Initial    | Total      |                                  | Uncoated<br>steel | Concrete |
| 151:                        |                         | <u>In.</u>      | <u>In.</u> |                        | <u>In.</u> | <u>In.</u> |                                  |                   |          |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Crandall-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Dromedary-----              | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Parkcity-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| 152:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Dromedary-----              | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Crandall-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Parkcity-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| 153:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Heiners-----                | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| 154:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Manila-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Henefer-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| 155:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Manila-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Henefer-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| 156:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Manila-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Harter-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Kovich-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Low      |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Henefer-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| 157:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Manila-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Henefer-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |

Table 19.--Soil features--continued

| Map symbol<br>and soil name | Restrictive layer       |                 |            |                        | Subsidence |            | Potential<br>for<br>frost action | Risk of corrosion |          |
|-----------------------------|-------------------------|-----------------|------------|------------------------|------------|------------|----------------------------------|-------------------|----------|
|                             | Kind                    | Depth<br>to top | Thickness  | Hardness               | Initial    | Total      |                                  | Uncoated<br>steel | Concrete |
|                             |                         | <u>In.</u>      | <u>In.</u> |                        | <u>In.</u> | <u>In.</u> |                                  |                   |          |
| 157:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Horrocks-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| 158:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Melling-----                | Bedrock (lithic)        | 12-20           | ---        | Indurated              | 0          | ---        | Moderate                         | Moderate          | Low      |
| Ayoub-----                  | Bedrock (lithic)        | 20-40           | ---        | Indurated              | 0          | ---        | Moderate                         | Moderate          | Low      |
| Rock outcrop-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| Dunford-----                | Bedrock (lithic)        | 20-40           | ---        | Indurated              | 0          | ---        | Moderate                         | Moderate          | Low      |
| Echocreek-----              | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| 159:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Parkcity-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Dromedary-----              | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Crandall-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Rock outcrop-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| 160:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Parkcity-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Dromedary-----              | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Crandall-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Rock outcrop-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| 161:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Pits, Gravel-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| 162:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Richsum-----                | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Heiners-----                | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Cutoff-----                 | Bedrock (lithic)        | 20-40           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Jana-----                   | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| 163:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Richsum-----                | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Heiners-----                | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Cutoff-----                 | Bedrock (lithic)        | 22-40           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Jana-----                   | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |

Table 19.--Soil features--continued

| Map symbol<br>and soil name | Restrictive layer       |                 |            |                        | Subsidence |            | Potential<br>for<br>frost action | Risk of corrosion |          |
|-----------------------------|-------------------------|-----------------|------------|------------------------|------------|------------|----------------------------------|-------------------|----------|
|                             | Kind                    | Depth<br>to top | Thickness  | Hardness               | Initial    | Total      |                                  | Uncoated<br>steel | Concrete |
| 164:                        |                         | <u>In.</u>      | <u>In.</u> |                        | <u>In.</u> | <u>In.</u> |                                  |                   |          |
| Rock outcrop-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| Agassiz-----                | Bedrock (lithic)        | 10-20           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Starley Family-----         | Bedrock (lithic)        | 10-20           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Hades-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Parkcity-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| 165:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Rock outcrop-----           | ---                     | ---             | ---        | ---                    | ---        | ---        | ---                              | ---               | ---      |
| Starley Family-----         | Bedrock (lithic)        | 10-20           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Dromedary-----              | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Crandall-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Lucky Star-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| 166:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| Crandall-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| 167:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| Parkcity-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Crandall-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| 168:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| Crandall-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |
| 169:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |

Table 19.--Soil features--continued

| Map symbol<br>and soil name | Restrictive layer       |                 |            |                        | Subsidence |            | Potential<br>for<br>frost action | Risk of corrosion |          |
|-----------------------------|-------------------------|-----------------|------------|------------------------|------------|------------|----------------------------------|-------------------|----------|
|                             | Kind                    | Depth<br>to top | Thickness  | Hardness               | Initial    | Total      |                                  | Uncoated<br>steel | Concrete |
|                             |                         | <u>In.</u>      | <u>In.</u> |                        | <u>In.</u> | <u>In.</u> |                                  |                   |          |
| 169:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| 170:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| 171:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| 172:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| 173:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| 174:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Snyderville-----            | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Harter-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Toddspan-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | High              | Moderate |
| Wanship-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| 175:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Snyderville-----            | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Harter-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Low      |
| Toddspan-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | High              | Moderate |
| Wanship-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |

Table 19.--Soil features--continued

| Map symbol<br>and soil name | Restrictive layer       |                 |            |                        | Subsidence |            | Potential<br>for<br>frost action | Risk of corrosion |          |
|-----------------------------|-------------------------|-----------------|------------|------------------------|------------|------------|----------------------------------|-------------------|----------|
|                             | Kind                    | Depth<br>to top | Thickness  | Hardness               | Initial    | Total      |                                  | Uncoated<br>steel | Concrete |
|                             |                         | <u>In.</u>      | <u>In.</u> |                        | <u>In.</u> | <u>In.</u> |                                  |                   |          |
| 176:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Snyderville-----            | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Harter-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Wanship-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Toddspan-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | High              | Moderate |
| 177:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Uinta-----                  | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | Moderate          | Moderate |
| Duchesne-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Haydenfork-----             | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Moderate |
| Crandall-----               | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Low      |
| Sessions-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Skutum-----                 | Bedrock<br>(paralithic) | 40-60           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | Moderate          | Low      |
| 178:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Wanship-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Kovich-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Low      |
| Snyderville-----            | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| 179:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Wanship-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Kovich-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | Moderate          | Low      |
| Toddspan-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | High                             | High              | Moderate |
| Snyderville-----            | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Dastrup-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| 180:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Henefer-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Heiners-----                | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| 181:                        |                         |                 |            |                        |            |            |                                  |                   |          |
| Yeates Hollow-----          | Bedrock (lithic)        | 40-60           | ---        | Indurated              | 0          | ---        | Moderate                         | High              | Moderate |
| Henefer-----                | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Low      |
| Ant Flat-----               | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |
| Heiners-----                | Bedrock<br>(paralithic) | 10-20           | ---        | Moderately<br>cemented | 0          | ---        | Moderate                         | High              | Moderate |
| Fewkes-----                 | ---                     | ---             | ---        | ---                    | 0          | ---        | Moderate                         | High              | Moderate |

Table 19.--Soil features--continued

[illegible]



Table 20.--Classification of the soils

| Soil name           | Family or higher taxonomic class                                                                    |
|---------------------|-----------------------------------------------------------------------------------------------------|
| Agassiz-----        | Loamy-skeletal, mixed, superactive, frigid Lithic Haploxerolls                                      |
| Ant Flat-----       | Fine, smectitic, frigid Calcic Argixerolls                                                          |
| Ayoub-----          | Fine-loamy, mixed, superactive, frigid Typic Argixerolls                                            |
| Cluff-----          | Clayey-skeletal, smectitic Mollic Haplocryalfs                                                      |
| Crandall-----       | Loamy-skeletal, mixed, superactive Xeric Argicryolls                                                |
| Cutoff-----         | Loamy-skeletal, mixed, superactive, frigid Typic Calcixerepts                                       |
| Dastrup-----        | Fine-loamy, mixed, superactive, frigid Typic Calcixerolls                                           |
| Dromedary-----      | Loamy-skeletal, mixed, superactive Mollic Haplocryalfs                                              |
| Duchesne-----       | Loamy-skeletal, mixed, superactive Typic Glossocryalfs                                              |
| Dunford-----        | Fine-loamy, mixed, superactive, frigid Pachic Argixerolls                                           |
| Echocreek-----      | Fine-loamy, mixed, superactive, frigid Cumulic Haploxerolls                                         |
| Fewkes-----         | Fine-loamy, mixed, superactive, frigid Calcic Argixerolls                                           |
| Hades-----          | Fine-loamy, mixed, superactive, frigid Pachic Argixerolls                                           |
| Harter-----         | Fine, smectitic, frigid Typic Argixerolls                                                           |
| Haydenfork-----     | Fine-loamy, mixed, superactive Typic Cryaquolls                                                     |
| Heiners-----        | Loamy-skeletal, mixed, superactive, frigid, shallow Typic Haploxerepts                              |
| Henefer-----        | Fine, smectitic, frigid Pachic Argixerolls                                                          |
| Horrocks-----       | Loamy-skeletal, mixed, superactive, frigid Typic Argixerolls                                        |
| Hovarka-----        | Fine-loamy over sandy or sandy-skeletal, mixed, superactive Cumulic<br>  Cryaquolls                 |
| Jana-----           | Loamy-skeletal, mixed, superactive, mesic, shallow Typic Haploxerepts                               |
| Kovich-----         | Fine-loamy, mixed, superactive, frigid Cumulic Endoaquolls                                          |
| Lucky Star-----     | Loamy-skeletal, mixed, superactive Typic Palecryolls                                                |
| Manila-----         | Fine, smectitic, frigid Typic Argixerolls                                                           |
| Melling-----        | Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls                                       |
| Millcreek-----      | Fine-loamy over sandy or sandy-skeletal, mixed, superactive Cumulic<br>  Haplocryolls               |
| Parkcity-----       | Loamy-skeletal, mixed, superactive Pachic Haplocryolls                                              |
| Richsum-----        | Fine-loamy, mixed, superactive, frigid Typic Calcixerepts                                           |
| Sessions-----       | Fine, smectitic Xeric Argicryolls                                                                   |
| Skutum-----         | Fine, smectitic Pachic Argicryolls                                                                  |
| Snyderville-----    | Loamy-skeletal, mixed, superactive, frigid Pachic Argixerolls                                       |
| Starley Family----- | Loamy-skeletal, mixed, superactive Lithic Haplocryolls                                              |
| Toddspring-----     | Loamy-skeletal, mixed, superactive, frigid Fluvaquentic Endoaquolls                                 |
| Uinta-----          | Fine-loamy, mixed, superactive Eutric Glossocryalfs                                                 |
| Wanship-----        | Fine-loamy over sandy or sandy-skeletal, mixed, superactive, frigid Aquic<br>  Cumulic Haploxerolls |
| Yeates Hollow-----  | Clayey-skeletal, smectitic, frigid Typic Argixerolls                                                |

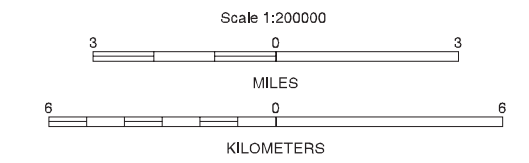
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**INDEX TO MAP SHEETS**  
**SUMMIT AREA, UTAH**  
Parts of Summit, Salt Lake and Wasatch Counties



SOIL LEGEND

| SYMBOL | NAME                                                                 |
|--------|----------------------------------------------------------------------|
| 101    | Agassiz-Rock outcrop complex, 30 to 70 percent slopes                |
| 102    | Ant Flat loam, 2 to 8 percent slopes                                 |
| 103    | Ant Flat loam, 8 to 15 percent slopes                                |
| 104    | Ant Flat loam, 15 to 30 percent slopes                               |
| 105    | Ant Flat-Henefer-Skutum complex, 8 to 30 percent slopes              |
| 106    | Ayoub cobbly loam, 2 to 5 percent slopes                             |
| 107    | Ayoub-Dunford-Melling complex, 15 to 30 percent slopes               |
| 108    | Ayoub-Dunford-Melling complex, 30 to 60 percent slopes               |
| 109    | Cluff loam, 8 to 30 percent slopes                                   |
| 110    | Cluff loam, 30 to 60 percent slopes                                  |
| 111    | Crandall gravelly loam, 2 to 8 percent slopes                        |
| 112    | Crandall-Lucky Star gravelly loams, 5 to 30 percent slopes           |
| 113    | Crandall-Lucky Star-Starley Family complex, 15 to 70 percent slopes  |
| 114    | Crandall-Starley Family-Rock outcrop complex, 5 to 30 percent slopes |
| 115    | Dastrup loam, 2 to 5 percent slopes                                  |
| 116    | Dastrup loam, 5 to 15 percent slopes                                 |
| 117    | Dastrup loam, 15 to 30 percent slopes                                |
| 118    | Dromedary-Rock outcrop complex, 30 to 70 percent slopes              |
| 119    | Duchesne very cobbly sandy loam, 2 to 15 percent slopes              |
| 120    | Duchesne very cobbly sandy loam, 15 to 30 percent slopes             |
| 121    | Duchesne very cobbly sandy loam, 30 to 60 percent slopes             |
| 122    | Duchesne- Haydenfork complex, 0 to 40 percent slopes                 |
| 123    | Dumps, mines                                                         |
| 124    | Dunford-Ayoub-Melling complex, 15 to 30 percent slopes               |
| 125    | Dunford-Ayoub-Melling complex, 30 to 60 percent slopes               |
| 126    | Echocreek loam, 2 to 6 percent slopes                                |
| 127    | Echocreek-Kovich loams, 0 to 10 percent slopes                       |
| 128    | Fewkes gravelly loam, 2 to 8 percent slopes                          |
| 129    | Fewkes gravelly loam, 8 to 15 percent slopes                         |
| 130    | Fewkes gravelly loam, 15 to 30 percent slopes                        |
| 131    | Fewkes-Heiners gravelly loams, percent slopes                        |
| 132    | Fewkes-Hades complex, 15 to 30 percent slopes                        |
| 133    | Fewkes-Hades complex, 30 to 60 percent slopes                        |
| 134    | Fewkes-Yeates Hollow complex, 5 to 15 percent slopes                 |
| 135    | Fewkes-Yeates Hollow complex, 15 to 30 percent slopes                |
| 136    | Hades-Agassiz-Rock outcrop complex, 30 to 70 percent slopes          |
| 137    | Hades-Fewkes complex, 15 to 30 percent slopes                        |
| 138    | Hades-Fewkes complex, 30 to 60 percent slopes                        |
| 139    | Harter gravelly loam, 2 to 15 percent slopes                         |
| 140    | Heiners-Fewkes gravelly loams, 15 to 30 percent slopes               |
| 141    | Heiners-Fewkes-Hades complex, 30 to 70 percent slopes                |
| 142    | Henefer-Harter gravelly loams, 15 to 30 percent slopes               |
| 143    | Horrocks-Agassiz very cobbly loams, 30 to 70 percent slopes          |
| 144    | Horrocks-Cutoff complex, 15 to 30 percent slopes                     |
| 145    | Horrocks-Cutoff complex, 30 to 60 percent slopes                     |
| 146    | Horrocks-Hades complex, 30 to 60 percent slopes                      |
| 147    | Hovarka-Millcreek loams, 0 to 4 percent slopes                       |
| 148    | Jana-Richsum-Rock outcrop, 30 to 70 percent slopes                   |
| 149    | Kovich-Todds�an loams, 0 to 3 percent slopes                         |
| 150    | Lucky Star gravelly loam, 15 to 30 percent slopes                    |
| 151    | Lucky Star gravelly loam, 30 to 60 percent slopes                    |
| 152    | Lucky Star-Dromedary gravelly loams, 30 to 70 percent slopes         |
| 153    | Lucky Star-Fewkes gravelly loams, 30 to 60 percent slopes            |
| 154    | Manila-Ant Flat loams, 2 to 8 percent slopes                         |
| 155    | Manila-Ant Flat loams, 8 to 15 percent slopes                        |
| 156    | Manila-Harter complex, 2 to 8 percent slopes                         |
| 157    | Manila-Henefer complex, 8 to 15 percent slopes                       |
| 158    | Melling-Ayoub-Rock outcrop complex, 10 to 30 percent slopes          |
| 159    | Parkcity-Dromedary gravelly loams, 15 to 30 percent slopes           |
| 160    | Parkcity-Dromedary gravelly loams, 30 to 70 percent slopes           |
| 161    | Pits, gravel                                                         |
| 162    | Richsum-Heiners complex, 4 to 15 percent slopes                      |
| 163    | Richsum-Heiners complex, 15 to 30 percent slopes                     |
| 164    | Rock outcrop                                                         |
| 165    | Rock outcrop-Starley Family complex, 30 to 70 percent slopes         |
| 166    | Sessions-Haydenfork complex, 0 to 15 percent slopes                  |
| 167    | Sessions-Skutum loams, 2 to 15 percent slopes                        |
| 168    | Sessions-Uinta complex, 2 to 30 percent slopes                       |
| 169    | Skutum loam, 2 to 15 percent slopes                                  |
| 170    | Skutum loam, 15 to 30 percent slopes                                 |
| 171    | Skutum loam, 30 to 60 percent slopes                                 |
| 172    | Skutum-Uinta association, 15 to 30 percent slopes                    |
| 173    | Skutum-Uinta association, 30 to 60 percent slopes                    |
| 174    | Snyderville cobbly loam, 1 to 5 percent slopes                       |
| 175    | Snyderville cobbly loam, 5 to 10 percent slopes                      |
| 176    | Snyderville gravelly loam, 1 to 5 percent slopes                     |
| 177    | Uinta-Duchesne complex, 8 to 30 percent slopes                       |
| 178    | Wanship loam, 0 to 3 percent slopes                                  |
| 179    | Wanship-Kovich loams, 0 to 3 percent slopes                          |
| 180    | Yeates Hollow-Hennefer complex, 3 to 15 percent slopes               |
| 181    | Yeates Hollow-Hennefer complex, 15 to 30 percent slopes              |
| 182    | Yeates Hollow-Hennefer complex, 30 to 60 percent slopes              |
| 183    | Water                                                                |
| 184    | Dams                                                                 |

CONVENTIONAL AND SPECIAL  
SYMBOLS LEGEND

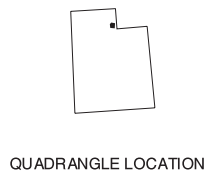
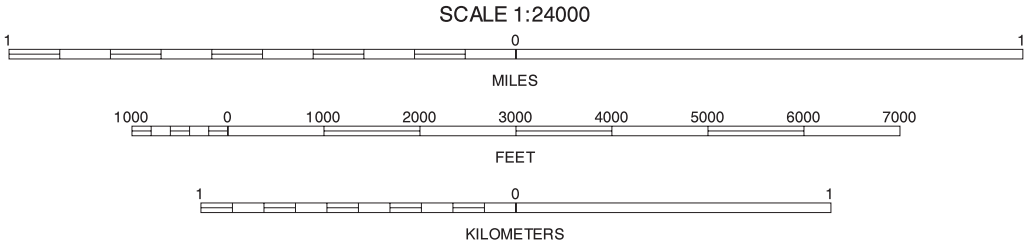
| CULTURAL FEATURES                                           |                                                | SPECIAL SYMBOLS FOR SOIL SURVEY AND SSURGO  |         |
|-------------------------------------------------------------|------------------------------------------------|---------------------------------------------|---------|
| BOUNDARIES                                                  | MISCELLANEOUS CULTURAL FEATURES                | SOIL DELINEATIONS AND SYMBOLS               | 136 452 |
| National, state, or province                                | Farmstead, house (omit in urban areas)         | LANDFORM FEATURES                           |         |
| County or parish                                            | Church                                         | ESCARPMENTS                                 |         |
| Minor civil division                                        | School                                         | Bedrock                                     |         |
| Reservation (national forest or park, state forest or park) | Other Religion (label)                         | Other than bedrock                          |         |
| Land grant                                                  | Located object (label)                         | SHORT STEEP SLOPE                           |         |
| Limit of soil survey (label) and/or denied access area      | Tank (label)                                   | GULLY                                       |         |
| Field sheet matchline & neatline                            | Lookout Tower                                  | DEPRESSION, closed                          |         |
| Previously Published Survey                                 | Oil and/or Natural Gas Wells                   | SINKHOLE                                    |         |
| OTHER BOUNDARY (label)                                      | Windmill                                       | EXCAVATIONS                                 |         |
| Airport, airfield                                           | Lighthouse                                     | PITS                                        |         |
| Cemetery                                                    |                                                | Borrow pits                                 |         |
| City/county park                                            |                                                | Gravel pit                                  |         |
| STATE COORDINATE TICK<br>1 890 000 FEET                     |                                                | Mine or quarry                              |         |
| LAND DIVISION CORNER<br>(section and land grants)           |                                                | LANDFILL                                    |         |
| GEOGRAPHIC COORDINATE TICK                                  |                                                | MISCELLANEOUS SURFACE FEATURES              |         |
| TRANSPORTATION                                              | STREAMS                                        | Blowout                                     |         |
| Divided roads                                               | Perennial, double line                         | Clay spot                                   |         |
| Other roads                                                 | Perennial, single line                         | Gravelly spot                               |         |
| Trail                                                       | Intermittent                                   | Lava flow                                   |         |
| ROAD EMBLEM & DESIGNATIONS                                  | Drainage end                                   | Marsh or swamp                              |         |
| Interstate                                                  | DRAINAGE AND IRRIGATION                        | Rock outcrop (includes sandstone and shale) |         |
| Federal                                                     | Double-line canal (label)                      | Saline spot                                 |         |
| State                                                       | Perennial drainage and/or irrigation ditch     | Sandy spot                                  |         |
| County, farm or ranch                                       | Intermittent drainage and/ or irrigation ditch | Severely eroded spot                        |         |
| RAILROAD                                                    | SMALL LAKES, PONDS AND RESERVOIRS              | Slide or slip                               |         |
| POWER TRANSMISSION LINE<br>(normally not shown)             | Perennial water                                | Sodic spot                                  |         |
| PIPE LINE (normally not shown)                              | Miscellaneous water                            | Spoil area                                  |         |
| FENCE (normally not shown)                                  | Flood pool line                                | Stony spot                                  |         |
| LEVEES                                                      | MISCELLANEOUS WATER FEATURES                   | Very stony spot                             |         |
| Without road                                                | Spring                                         | Wet spot                                    |         |
| With road                                                   | Well, artesian                                 |                                             |         |
| With railroad                                               | Well, irrigation                               |                                             |         |
| Single side slope<br>(showing actual feature location)      |                                                |                                             |         |
| DAMS                                                        |                                                |                                             |         |
| Medium or Small                                             |                                                |                                             |         |
| LANDFORM FEATURES                                           |                                                |                                             |         |
| Prominent hill or peak                                      |                                                |                                             |         |
| Soil Sample Site                                            |                                                |                                             |         |





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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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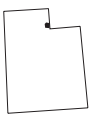
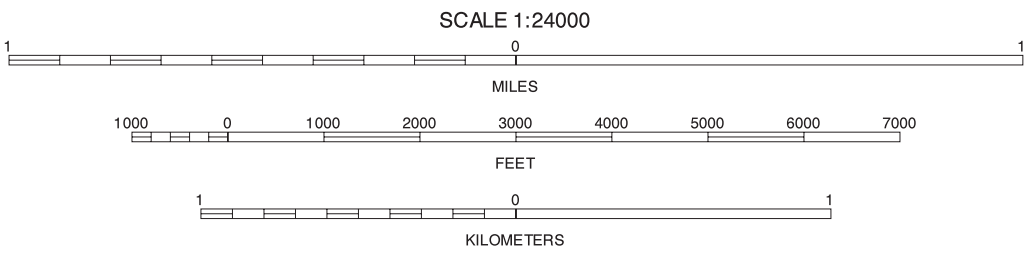
FRANCIS CANYON, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 1 OF 39





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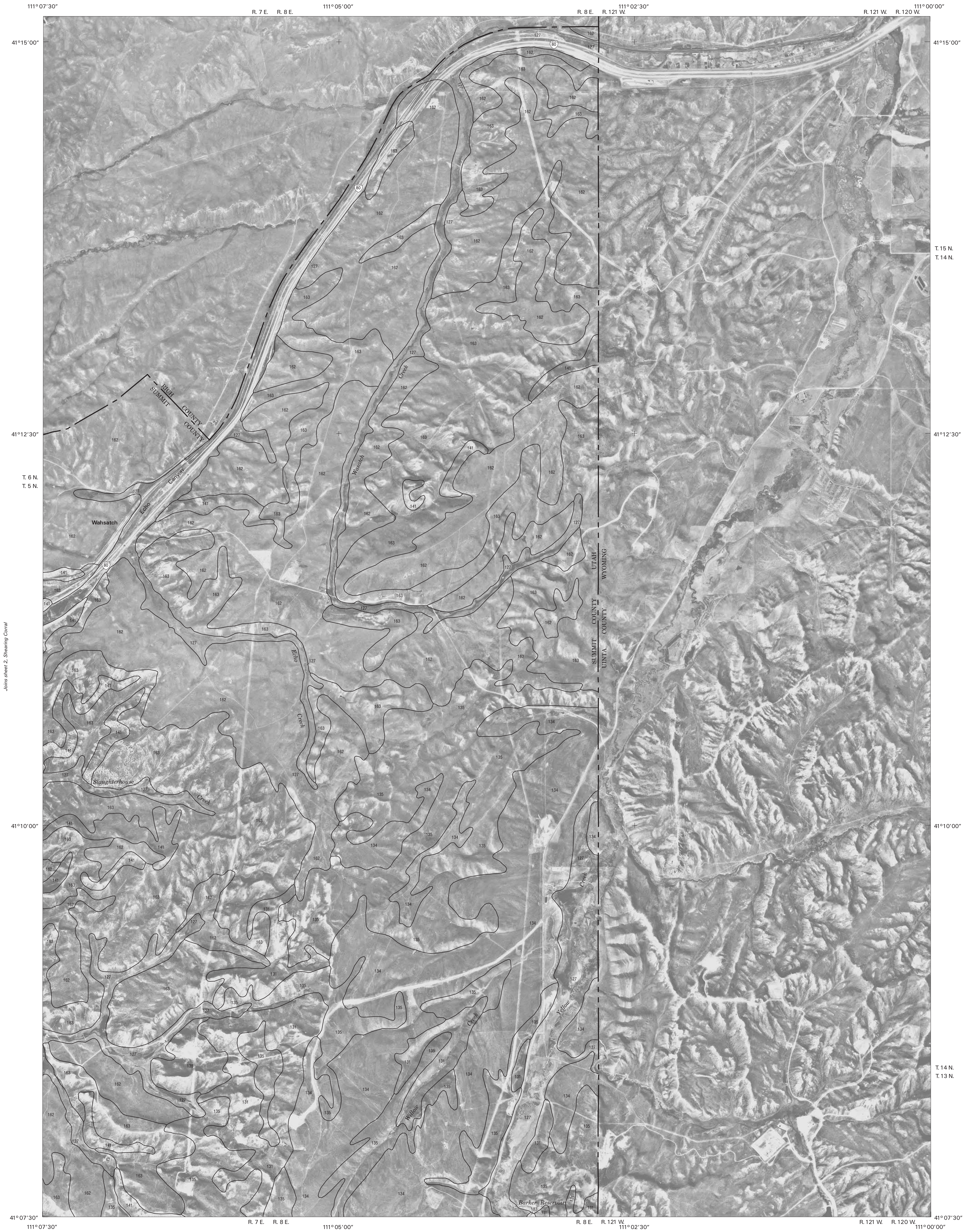
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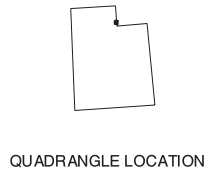
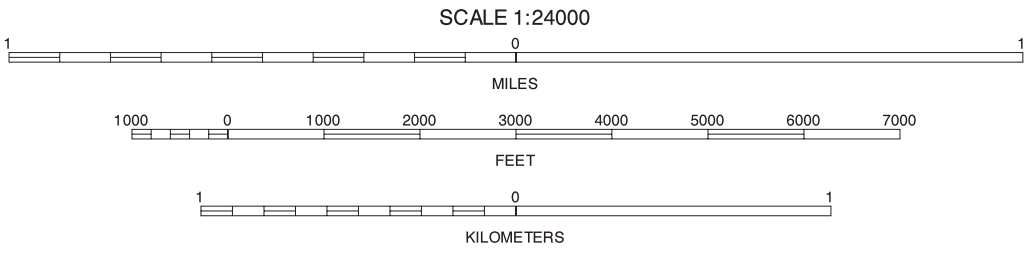
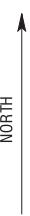
SHEARING CORRAL, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 2 OF 39





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WAHSATCH, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 3 OF 39



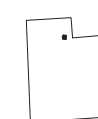
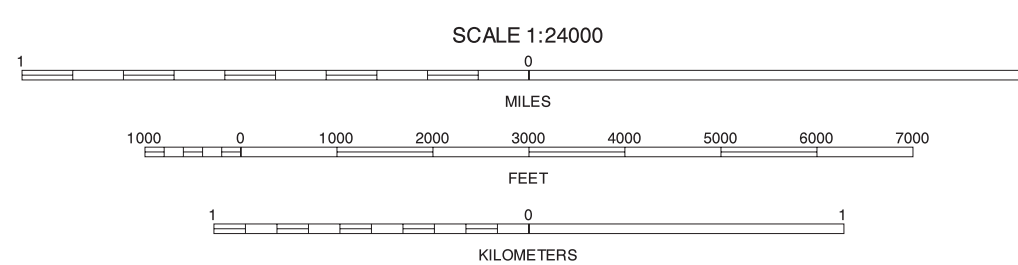
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111° 35' 00"

R. 3 E. 111°32'30" R. 4 E.

111° 30' 00"

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

DEVILS SLIDE, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 4 OF 39

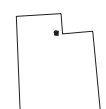
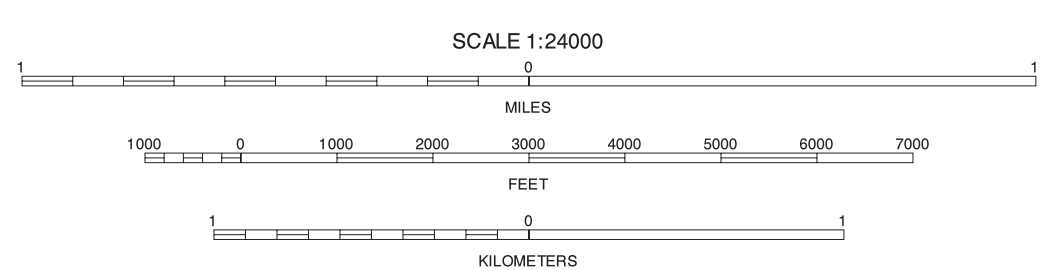
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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks; Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



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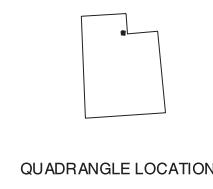
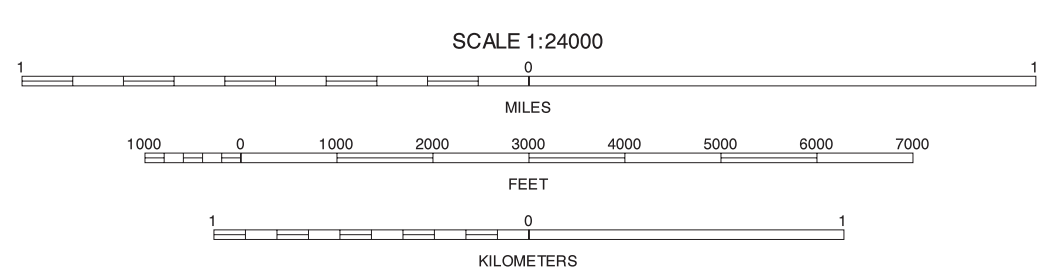
HENEFER, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 5 OF 39





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QUADRANGLE LOCATION

HEINERS CREEK, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 6 OF 39

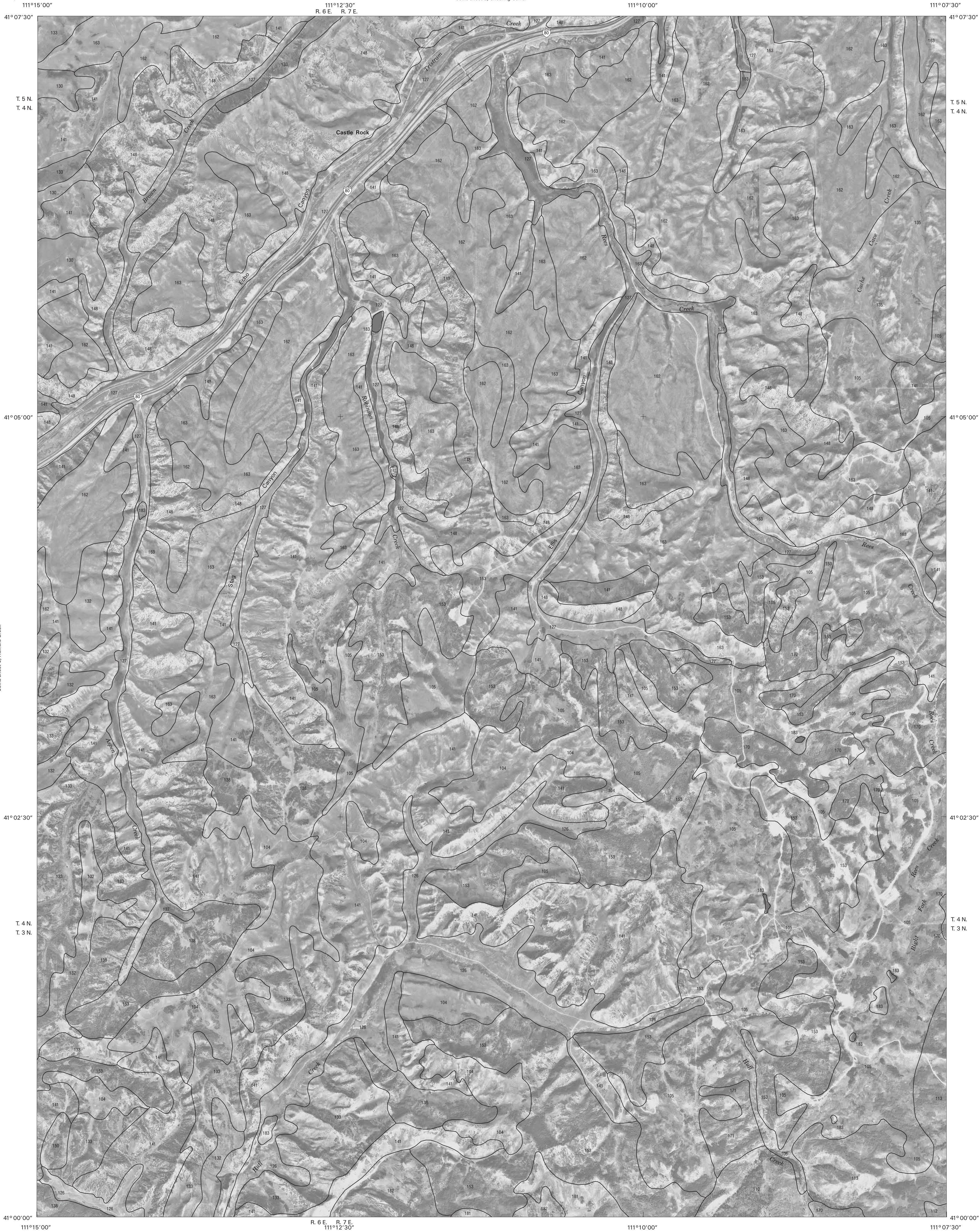


Joins sheet 1,  
Francis Canyon

UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

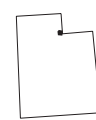
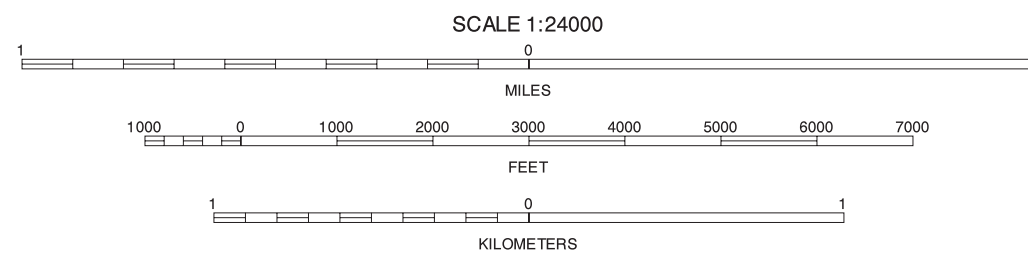
SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
CASTLE ROCK QUADRANGLE  
SHEET NUMBER 7 OF 39

Joins sheet 3,  
Washcreek



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QUADRANGLE LOCATION

CASTLE ROCK, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 7 OF 39



Joins sheet 2,  
Shining Coral

UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
PORCUPINE RIDGE QUADRANGLE  
SHEET NUMBER 8 OF 39

Joins sheet 3, Wahsatch



Joins sheet 7, Castle Rock

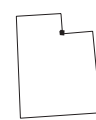
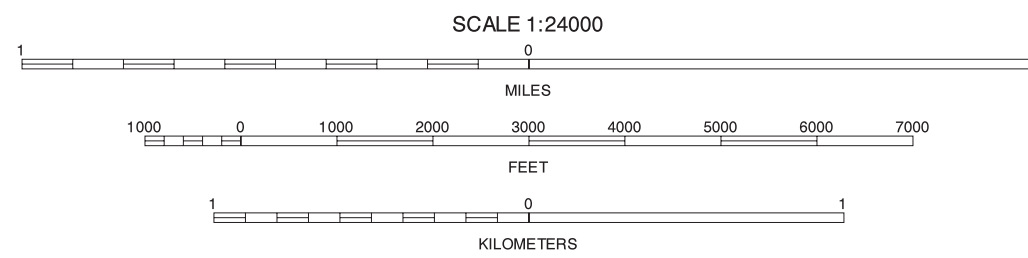
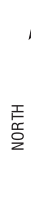
Joins sheet 12,  
Upton

Joins sheet 13, Red Hole

Joins sheet 14,  
Sawtooth Flat

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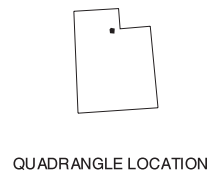
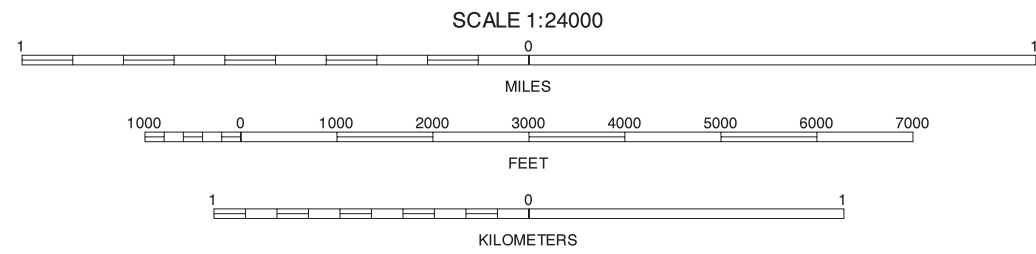
PORCUPINE RIDGE, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 8 OF 39





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North American Datum of 1983 (NAD83), GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 12.  
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



EAST CANYON RESERVOIR, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 9 OF 39



*Joins sheet 5. Henefer*

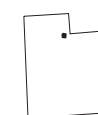
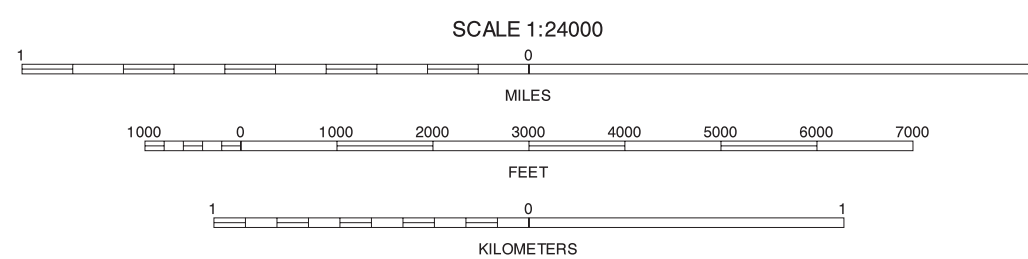


sheet 19,  
Hollow

Joins sheet 2  
Crandall C

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1997 aerial photography.

North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks; Universal Transverse Mercator, zone 12.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.



QUADRANGLE LOCATION

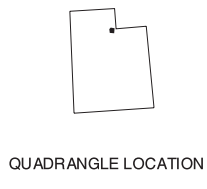
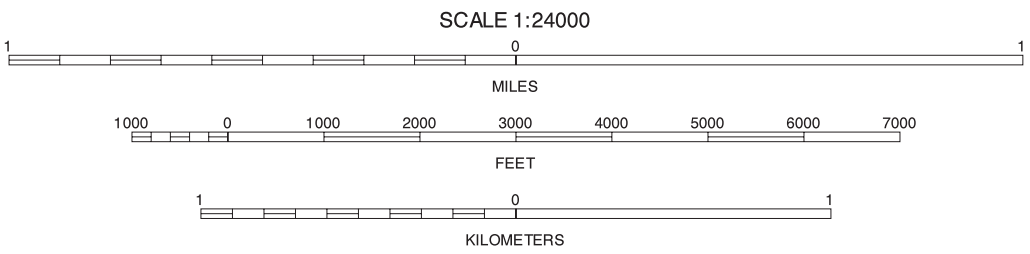
COALVILLE, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 10 OF 39





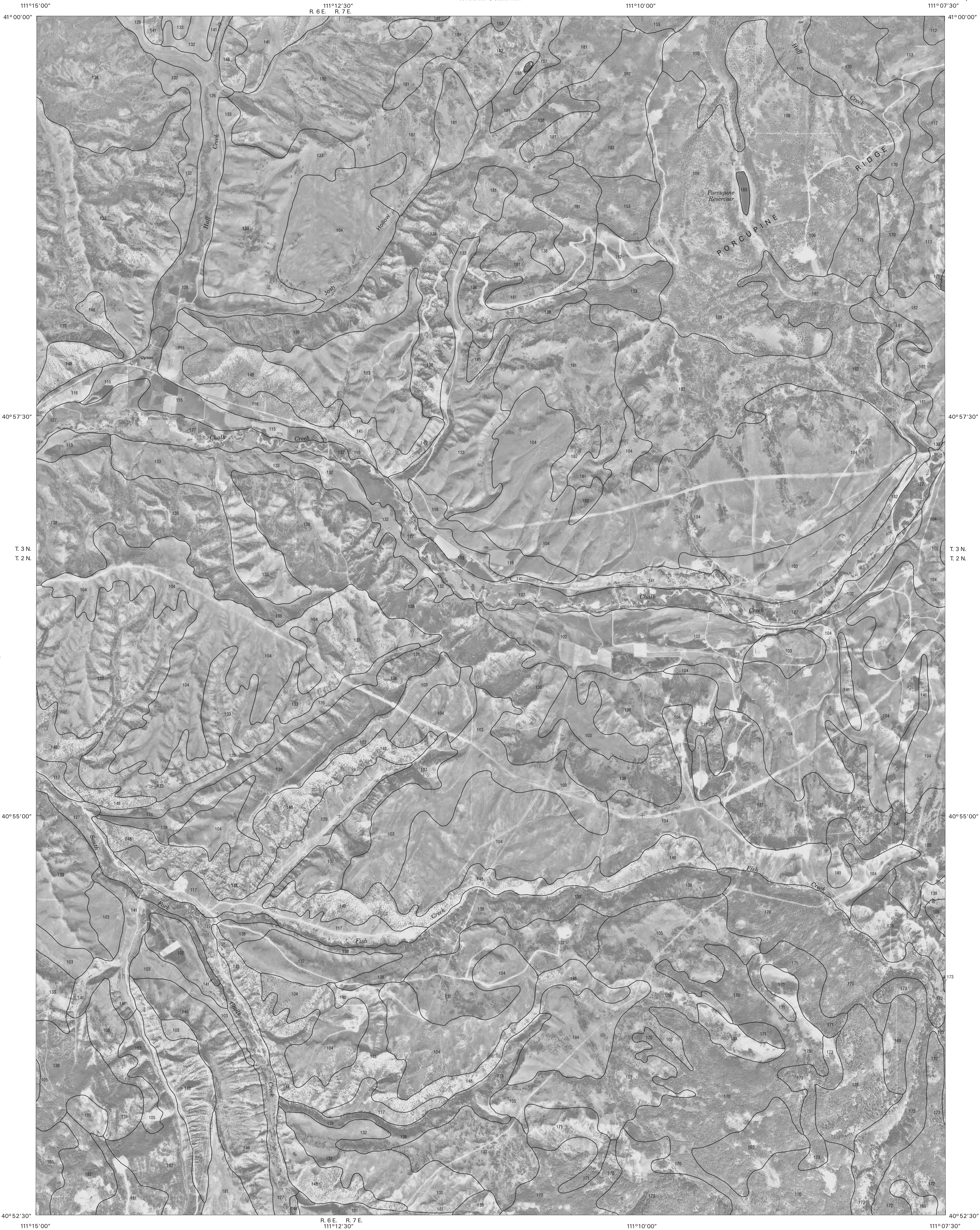
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1997 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 12.  
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



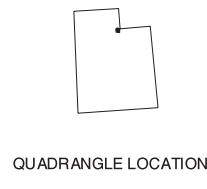
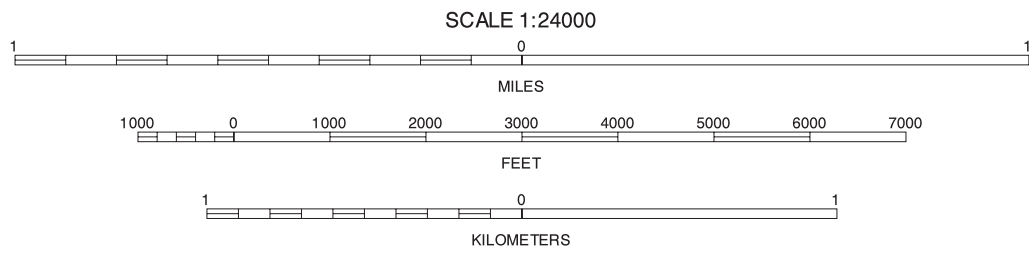
TURNER HOLLOW, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 11 OF 39





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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



UPTON, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 12 OF 39

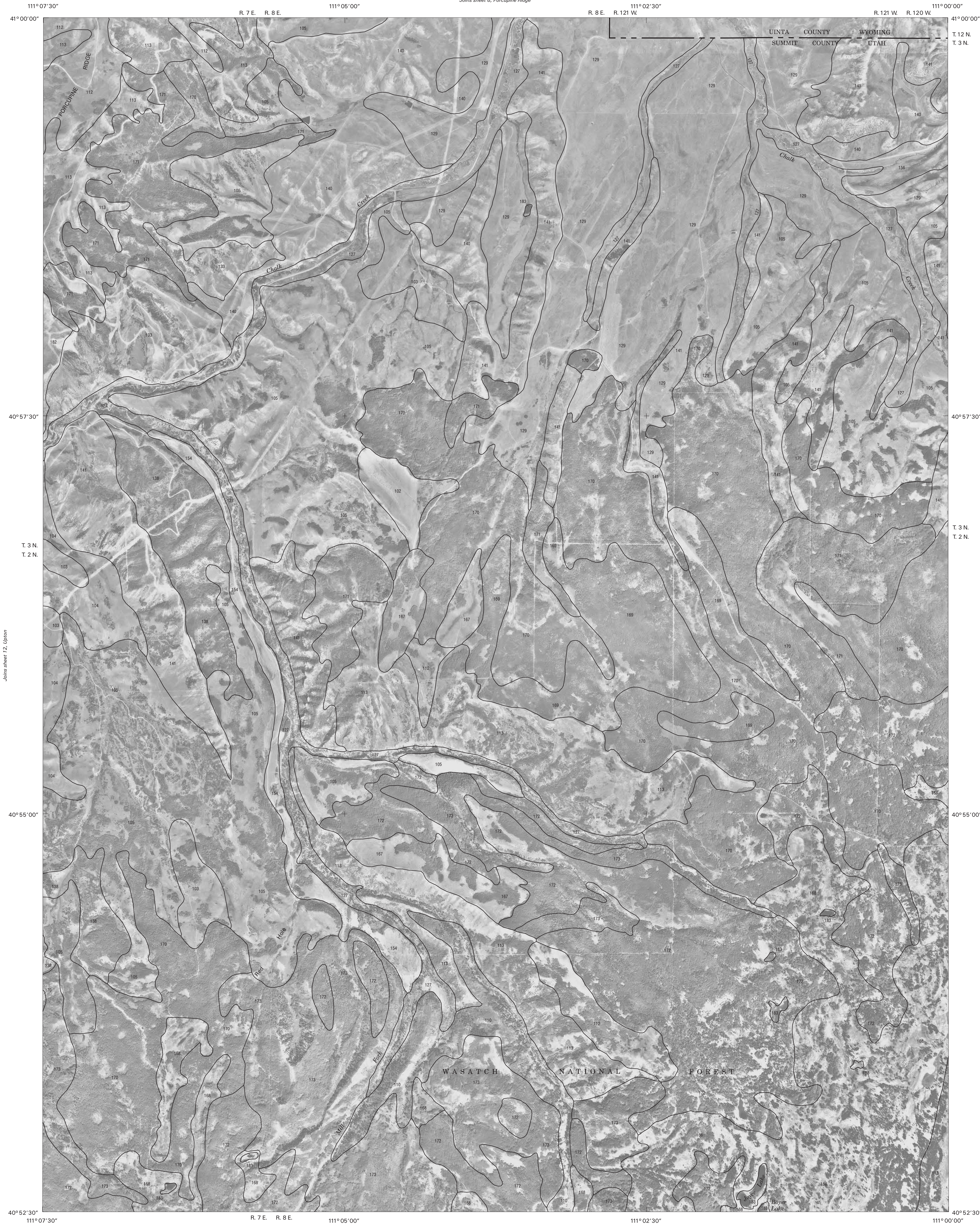


Joins sheet 7,  
Cedar Fork

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DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
RED HOLE QUADRANGLE  
SHEET NUMBER 13 OF 39

Joins sheet 8, Porcupine Ridge



Joins sheet 12, Unjon

Joins sheet 14, Seven Tree Flat

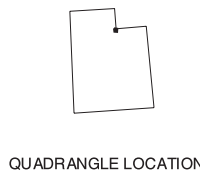
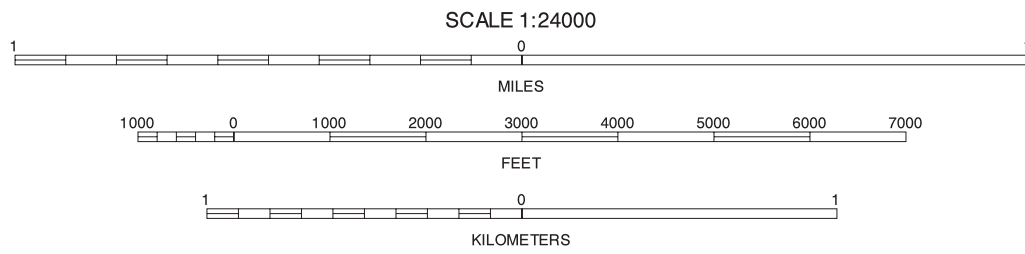
Joins sheet 22,  
Hidden Lake

Joins sheet 24,  
Willow Meadow

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



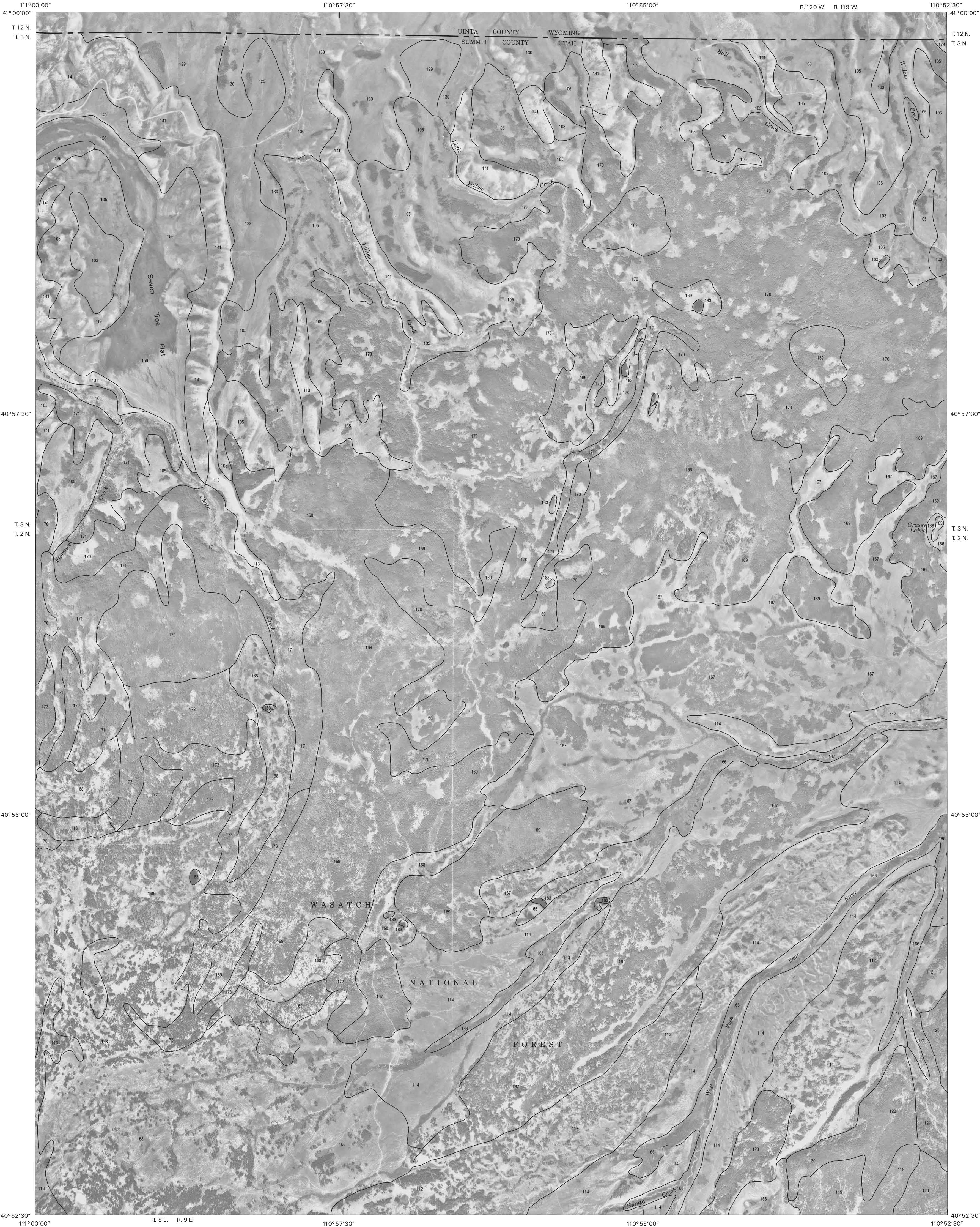
QUADRANGLE LOCATION

RED HOLE, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 13 OF 39



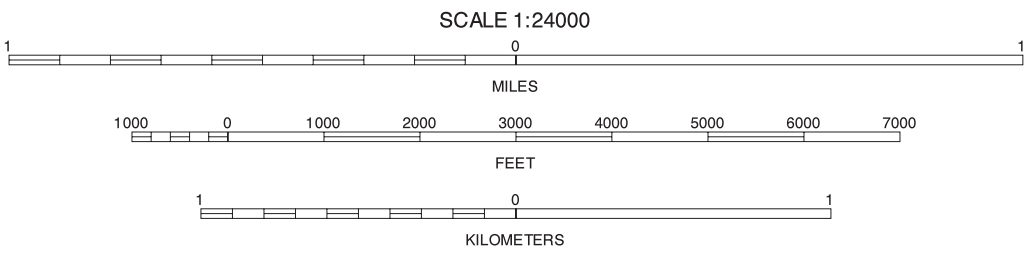
UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
SEVEN TREE FLAT QUADRANGLE  
SHEET NUMBER 14 OF 39



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



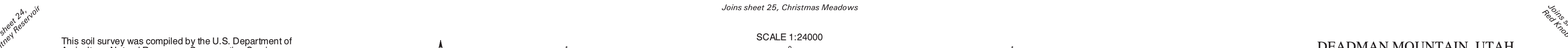
QUADRANGLE LOCATION

SEVEN TREE FLAT, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 14 OF 39

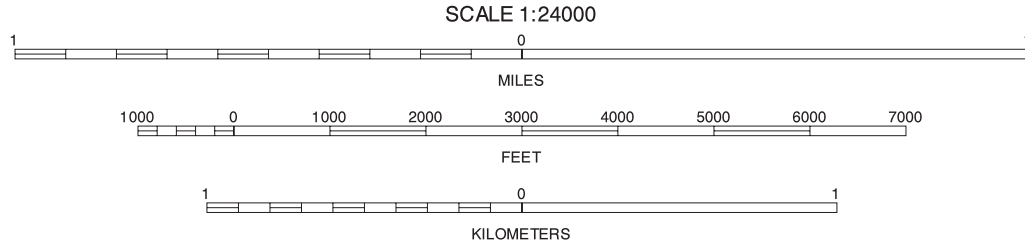


SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
DEADMAN MOUNTAIN QUADRANGLE  
SHEET NUMBER 15 OF 39

T. 12 N. \_\_\_\_\_ UHTEA COUNTY \_\_\_\_\_ WYOMING \_\_\_\_\_ T. 12 N.  
 T. 3 N. \_\_\_\_\_ UHTEA COUNTY \_\_\_\_\_ WYOMING \_\_\_\_\_

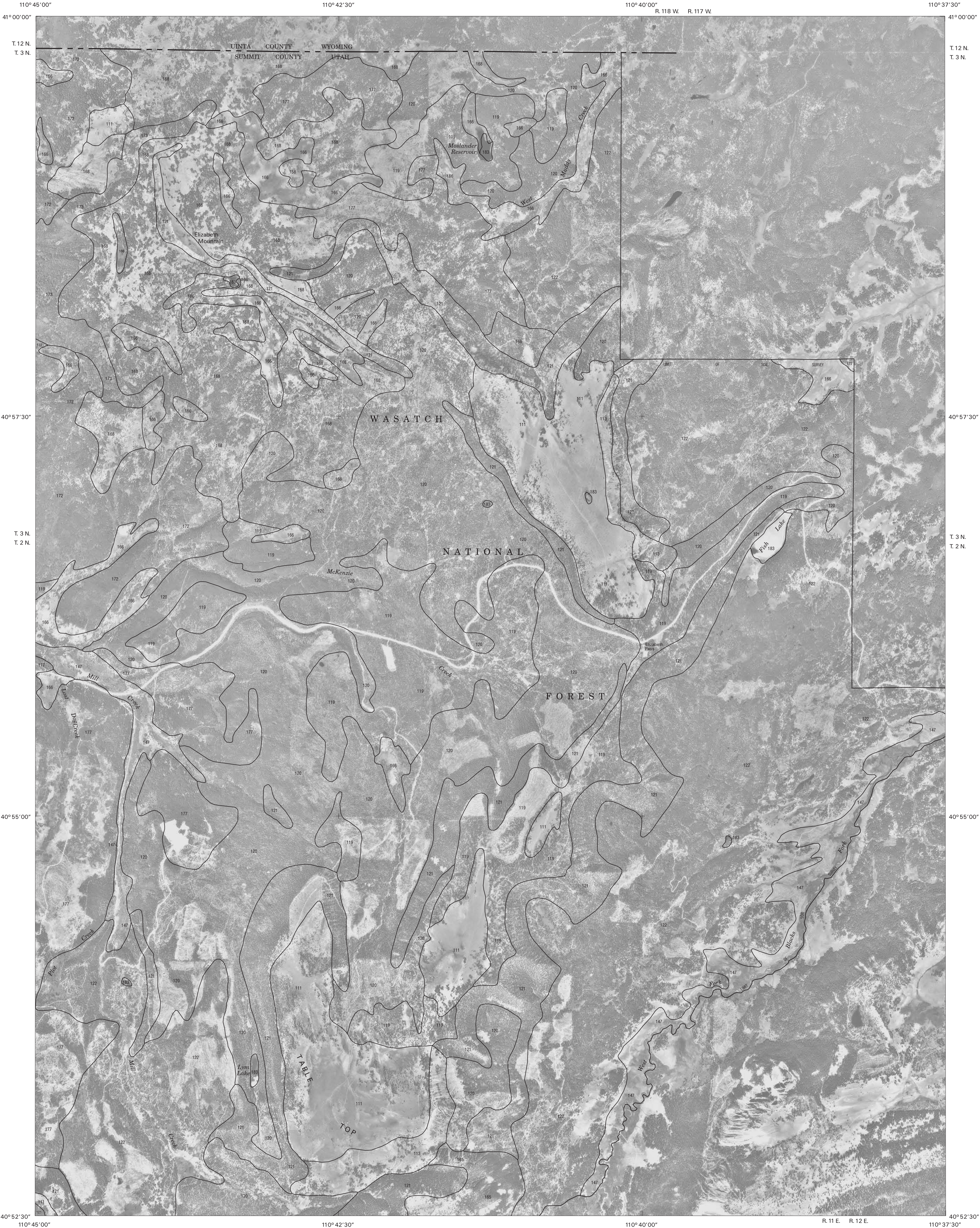


North American Datum of 1983 (NAD83). GRS-80 Spheroid  
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Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.



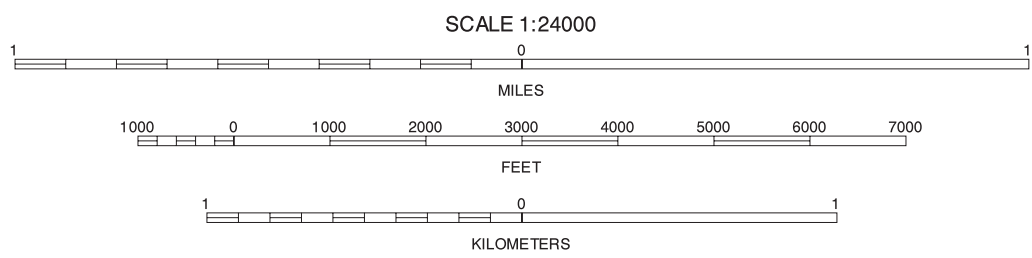
DEADMAN MOUNTAIN, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 15 OF 39





This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1997 aerial photography.

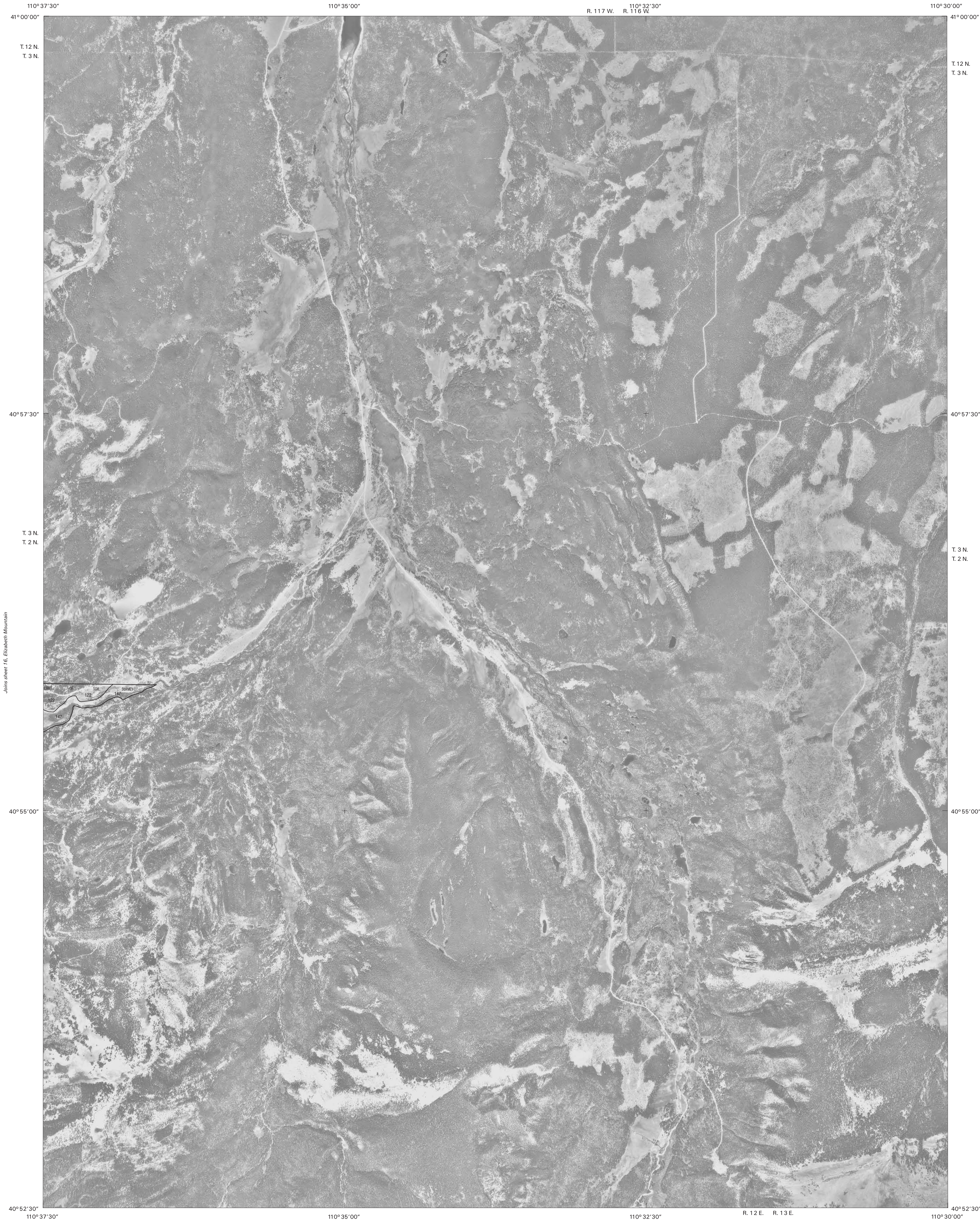
North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

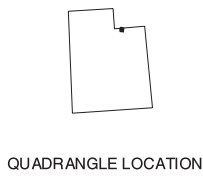
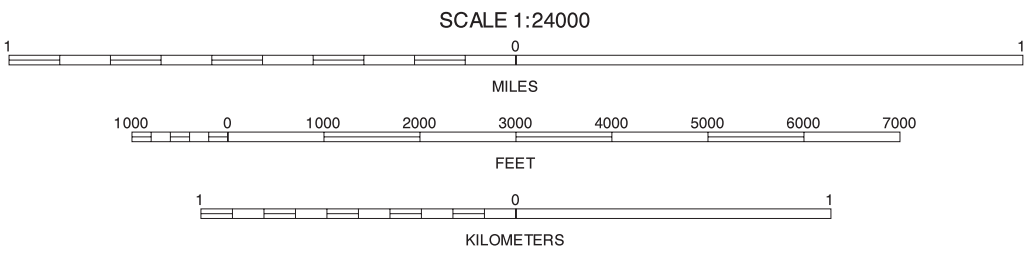
ELIZABETH MOUNTAIN, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 16 OF 39





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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

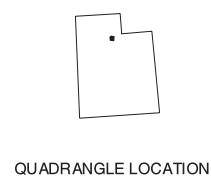
LYMAN LAKE, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 17 OF 39



joins sheet 9,  
West Canyon Reservoir



NORTH



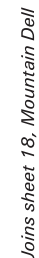
Joins sheet 23  
Park City West



SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
BIG DUTCH HOLLOW QUADRANGLE  
SHEET NUMBER 19 OF 39

R. 3 E. R. 4 E.

Joins sheet 10,  
Coalville



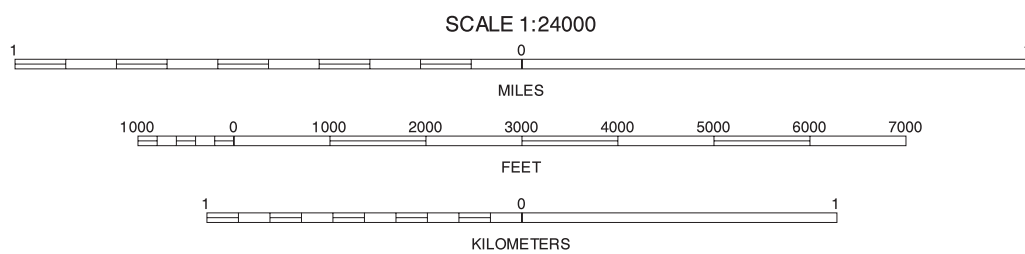
Joins sheet 20, Wanship

Joins sheet 28,  
Mount Aire

*Joins sheet 29, Park City West*

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1000-meter ticks: Universal Transverse Mercator, zone 12.  
Coordinate grid ticks and land division data, if shown, are  
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this quadrangle.



QUADRANGLE LOCATION

BIG DUTCH HOLLOW, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 19 OF 39

Joins sheet 30  
park City East



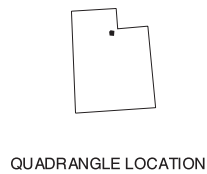
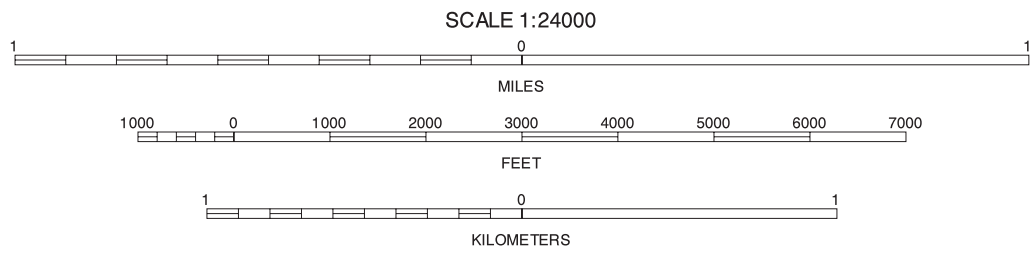
UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
WANSHIP QUADRANGLE  
SHEET NUMBER 20 OF 39



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



WANSHIP, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 20 OF 39



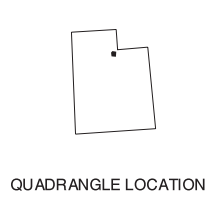
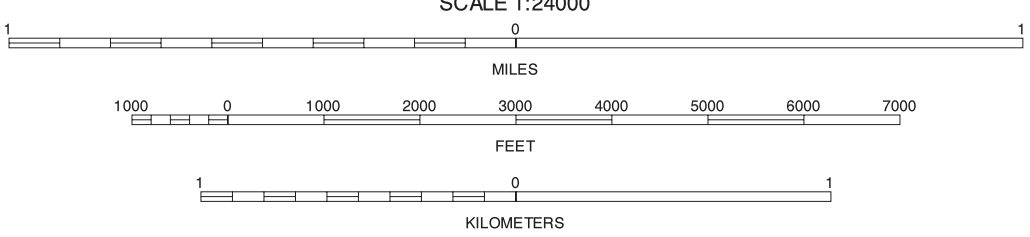
UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
CRANDALL CANYON QUADRANGLE  
SHEET NUMBER 21 OF 39



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

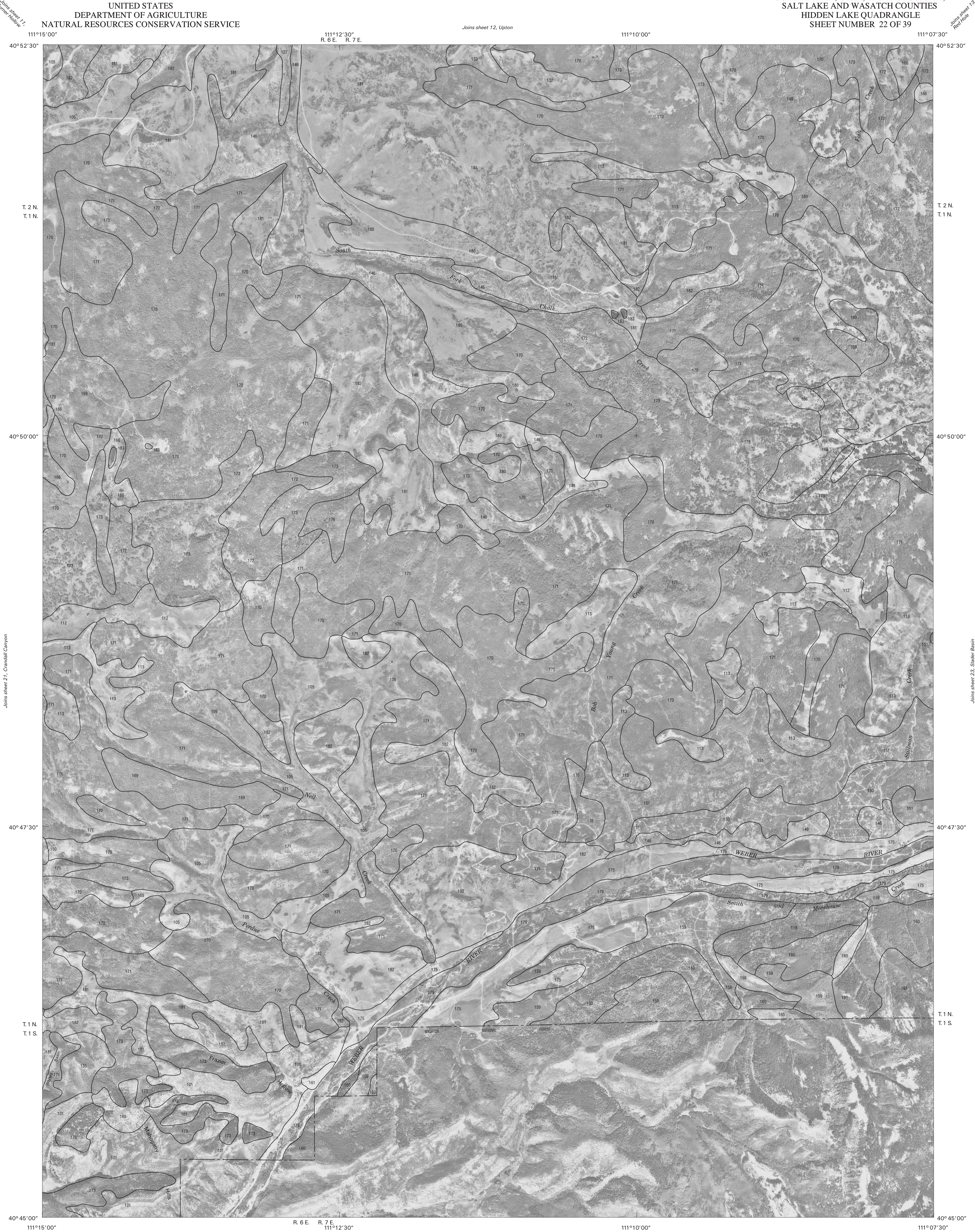


CRANDALL CANYON, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 21 OF 39



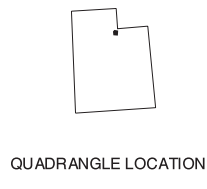
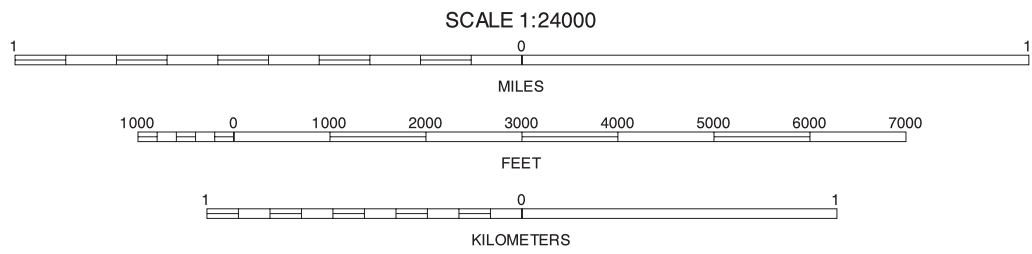
UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
HIDDEN LAKE QUADRANGLE  
SHEET NUMBER 22 OF 39



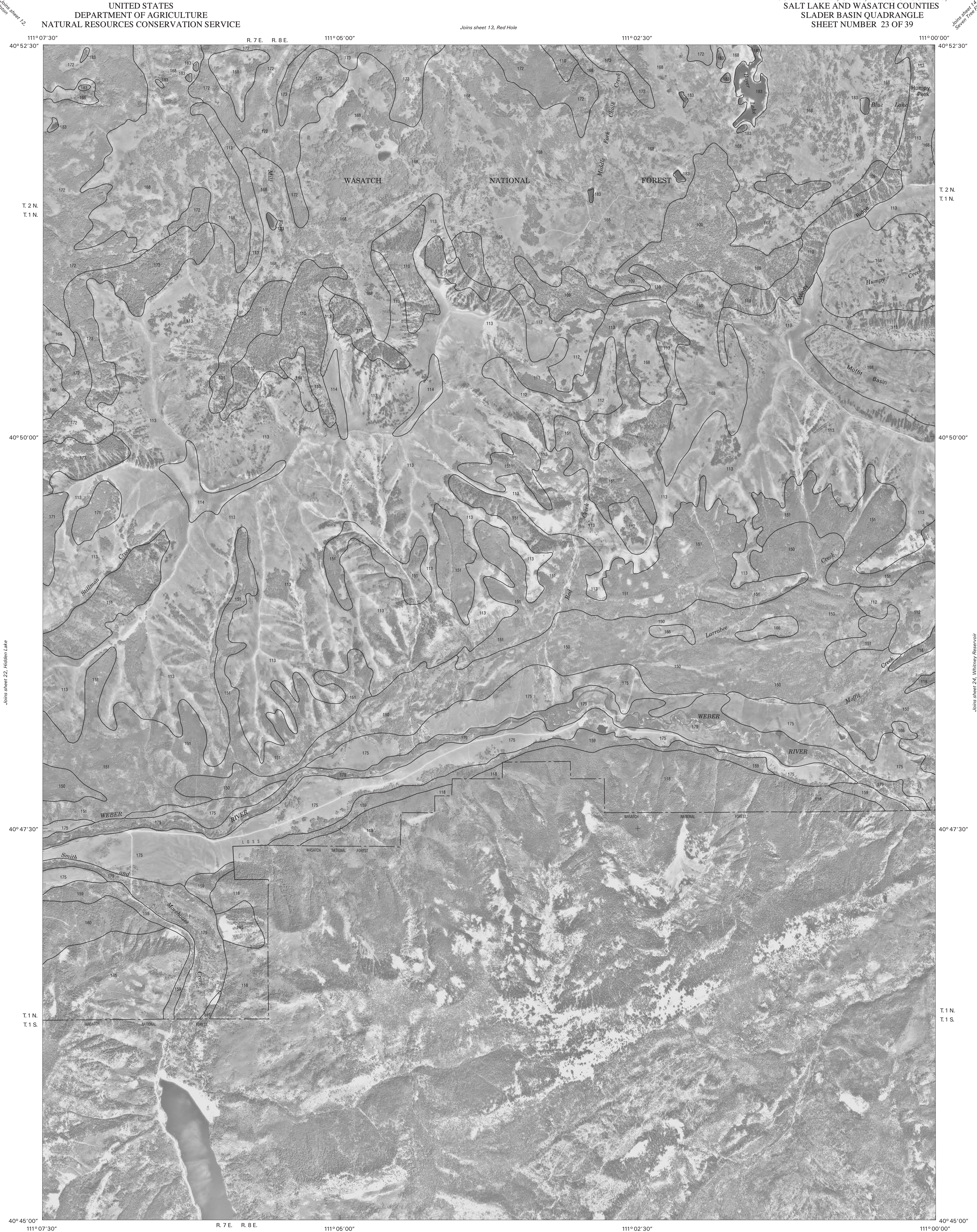
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1997 aerial photography.

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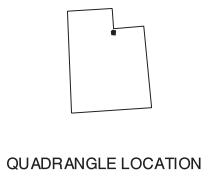
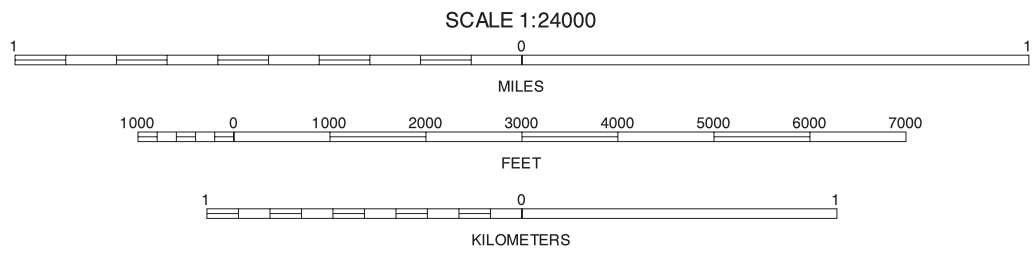
HIDDEN LAKE, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 22 OF 39





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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



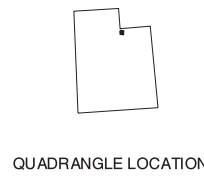
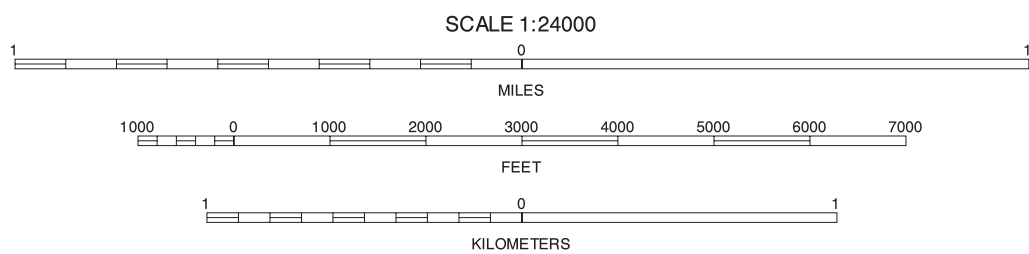
SLADER BASIN, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 23 OF 39





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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



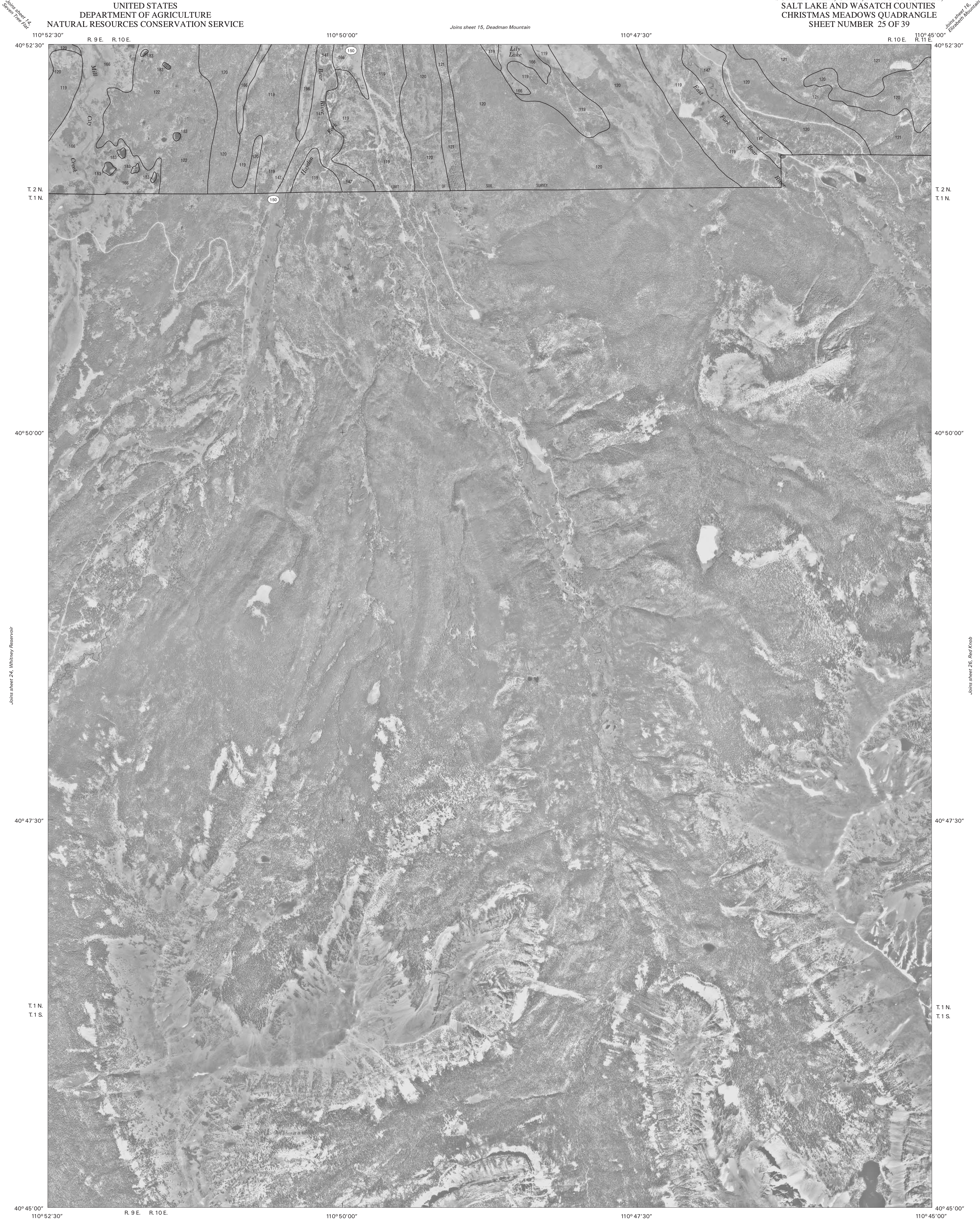
QUADRANGLE LOCATION

WHITNEY RESERVOIR, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 24 OF 39



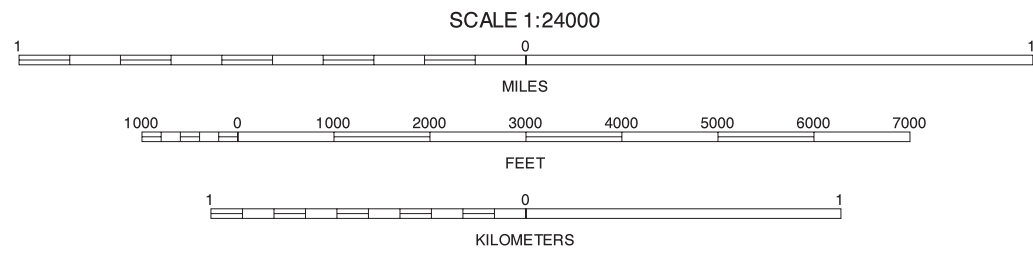
UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
CHRISTMAS MEADOWS QUADRANGLE  
SHEET NUMBER 25 OF 39



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1997 aerial photography.

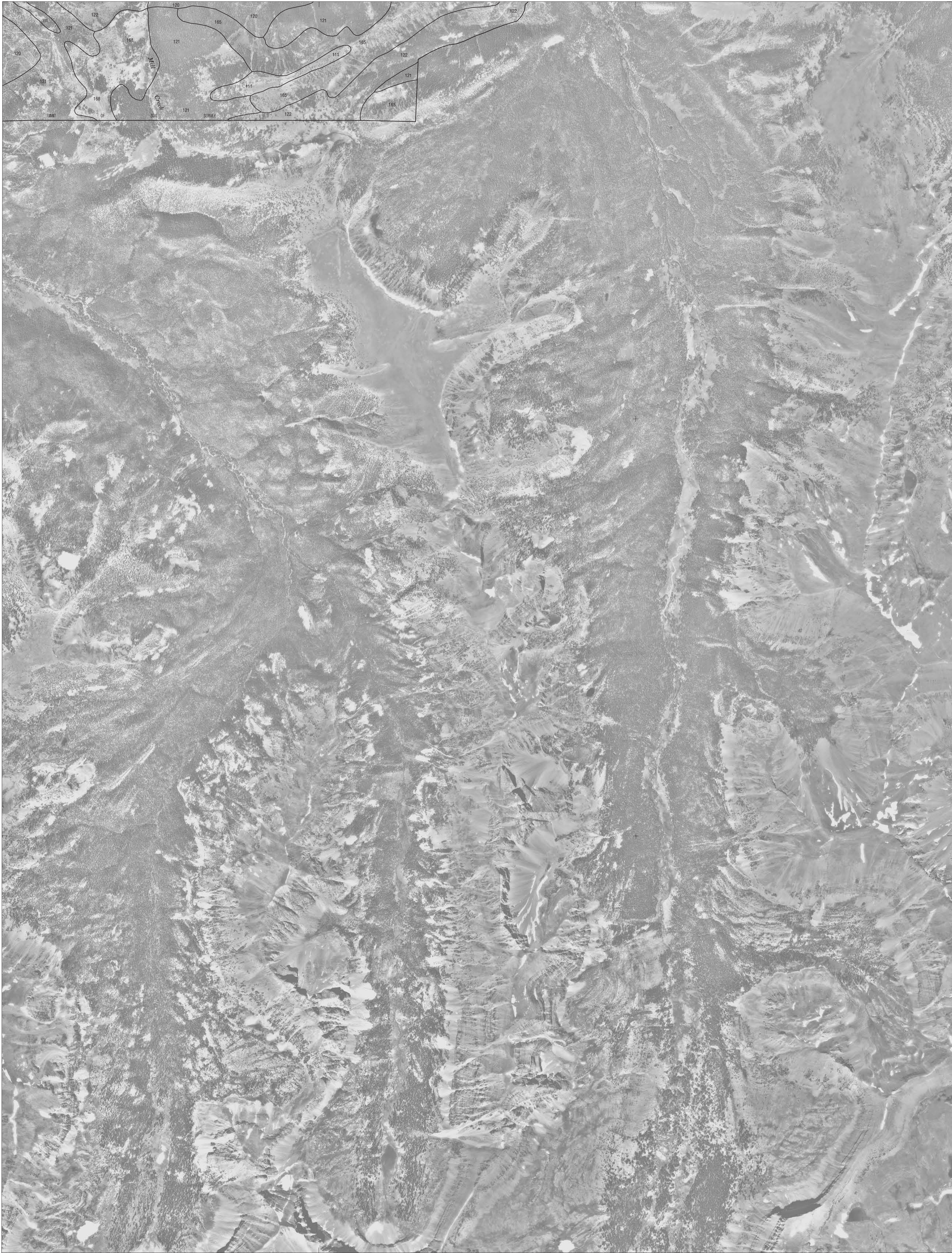
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QUADRANGLE LOCATION

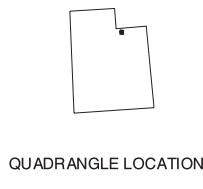
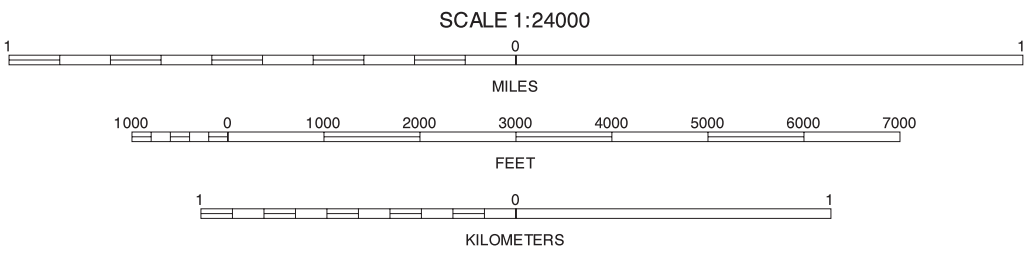
CHRISTMAS MEADOWS, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 25 OF 39





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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

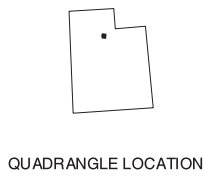
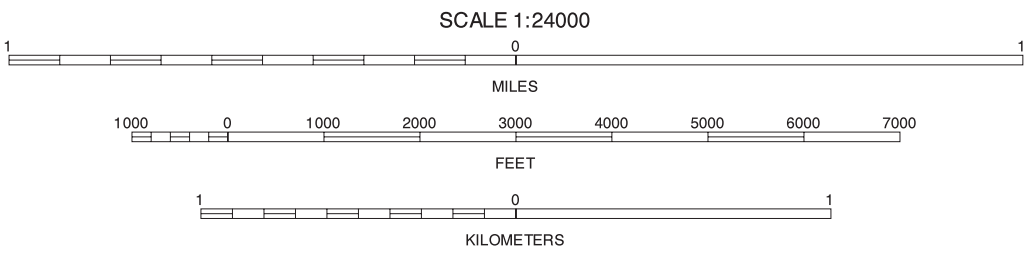
RED KNOB, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 26 OF 39





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North American Datum of 1983 (NAD83), GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 12.  
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

SUGAR HOUSE, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 27 OF 39

Joins sheet 25, Mount Aire

Joins sheet 24, Draper Peak

Joins sheet 33, Draper



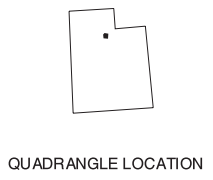
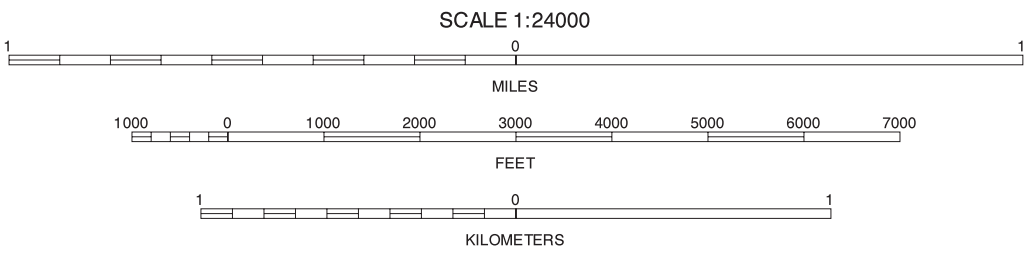
UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

SUMMIT AREA, UTAH. PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
MOUNT AIRE QUADRANGLE  
SHEET NUMBER 28 OF 39



This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1997 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

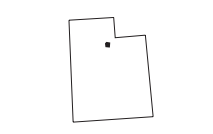
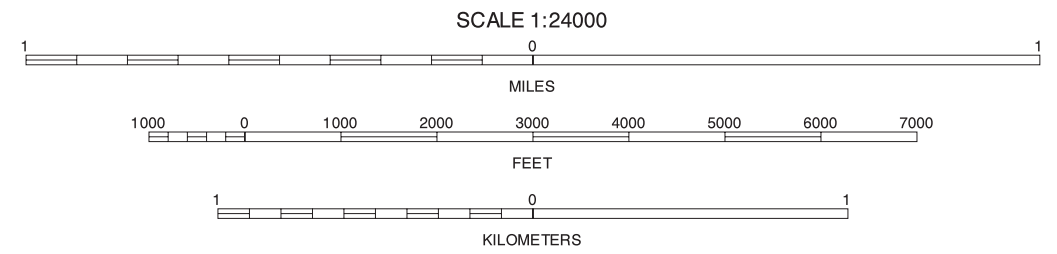
MOUNT AIRE, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 28 OF 39





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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



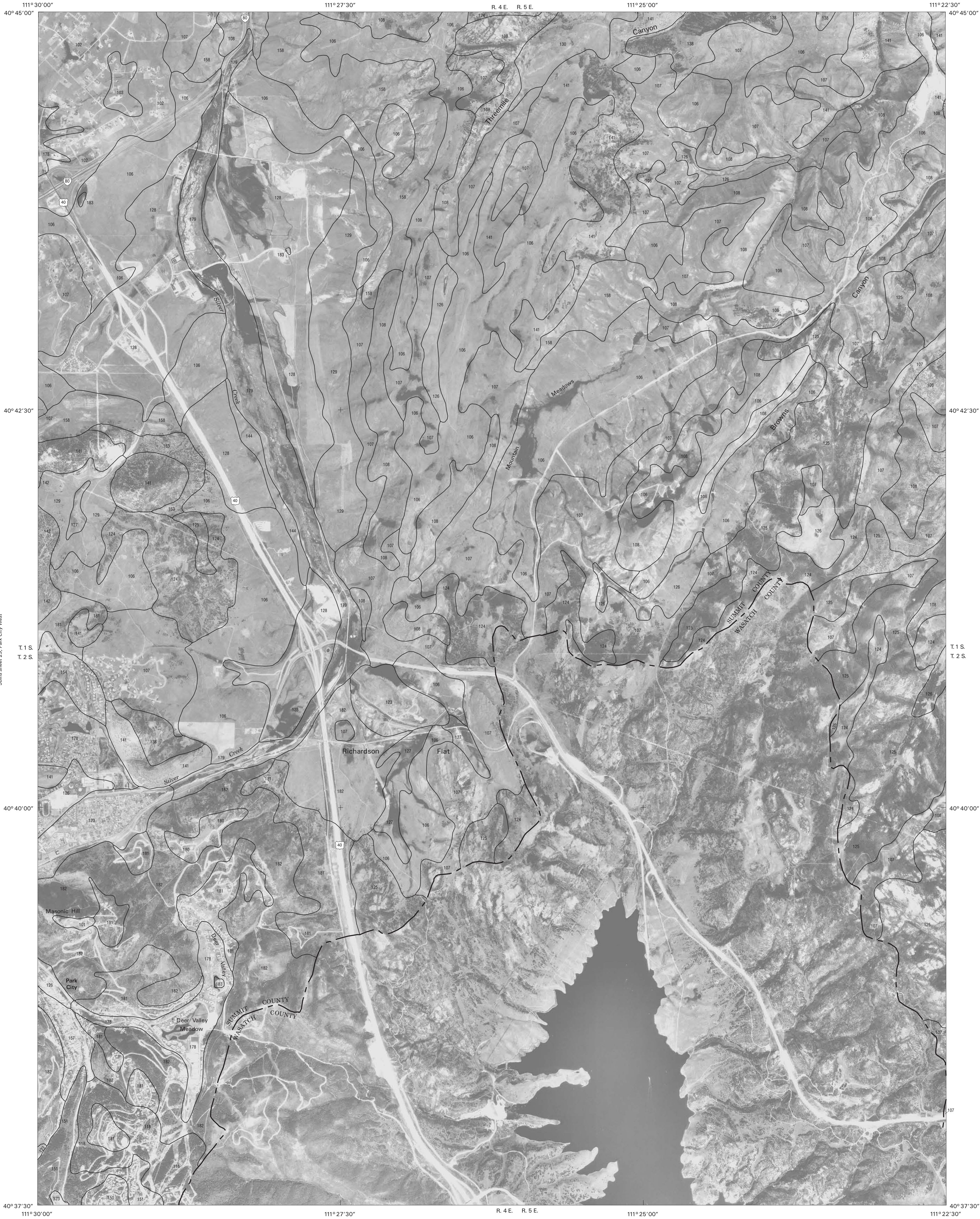
QUADRANGLE LOCATION

PARK CITY WEST, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 29 OF 39



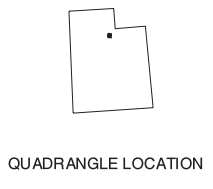
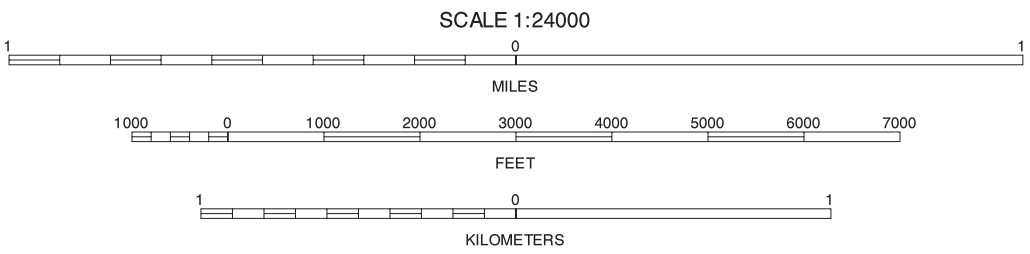
UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
PARK CITY EAST QUADRANGLE  
SHEET NUMBER 30 OF 39



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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

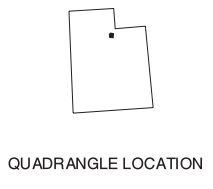
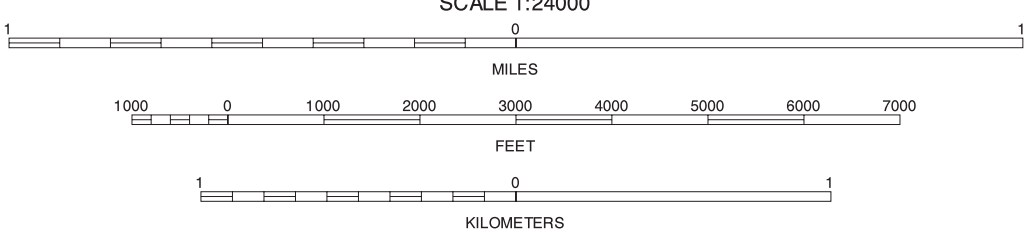
PARK CITY EAST, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 30 OF 39





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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

KAMAS, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 31 OF 39



Joins sheet 21,  
Crandall Canyon

Joins sheet 23,  
Slader Basin

*Joins sheet 22, Hidden Lake*

111°10'00"

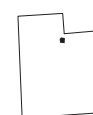
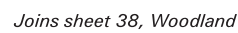
111° 07' 30"



T. 1 S.  
T. 2 S.

Joins sheet 37,  
Francis

NORTH



QUADRANGLE LOCATION

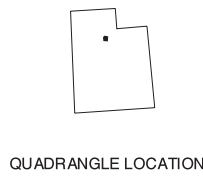
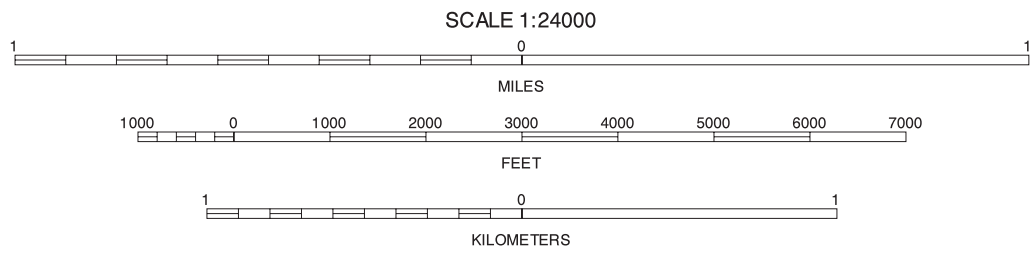
Joins sheet 39,  
Soapstone Basin





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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



QUADRANGLE LOCATION

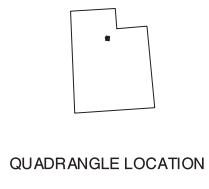
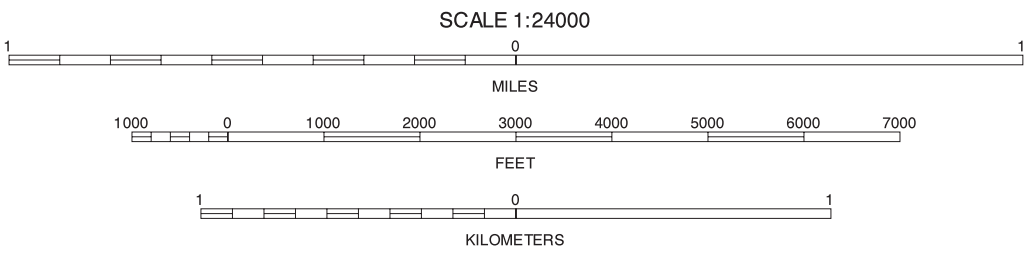
DRAPER, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 33 OF 39





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North American Datum of 1983 (NAD83), GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 12.  
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



DROMEDARY PEAK, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 34 OF 39



Joins sheet 28,  
Mount Aire

UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 29, Park City West

SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
BRIGHTON QUADRANGLE  
SHEET NUMBER 35 OF 39

Joins sheet 20,  
Park City East

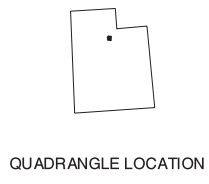
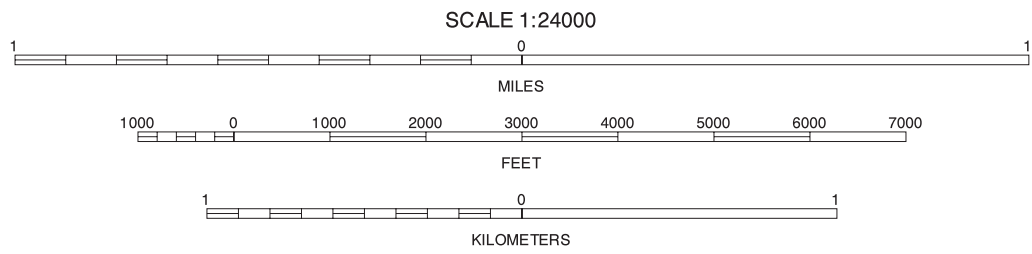


Joins sheet 34, Doremeary Peak

Joins sheet 36, Heber City

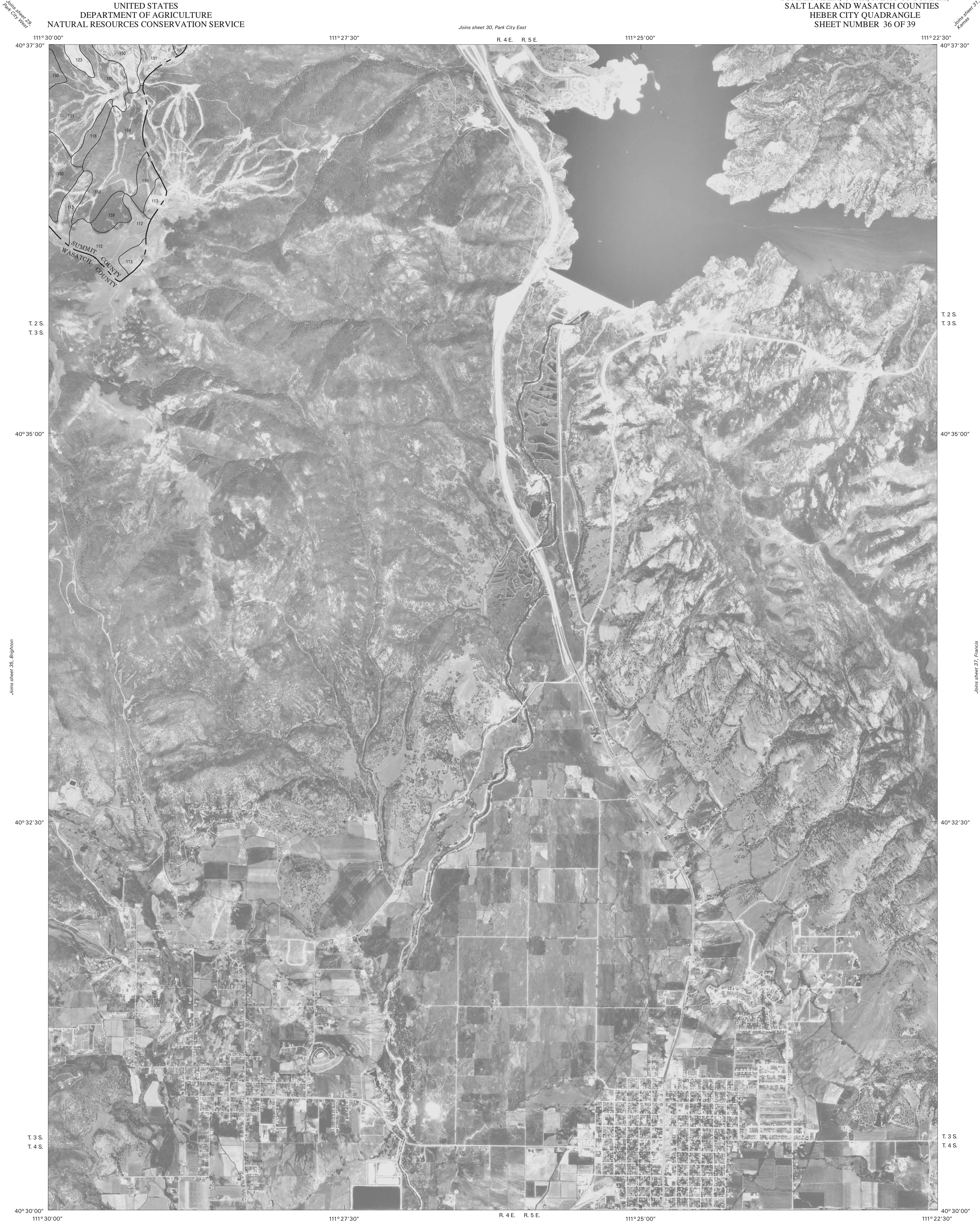
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1997 aerial photography.

North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.



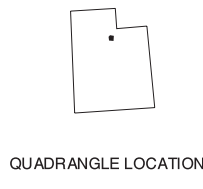
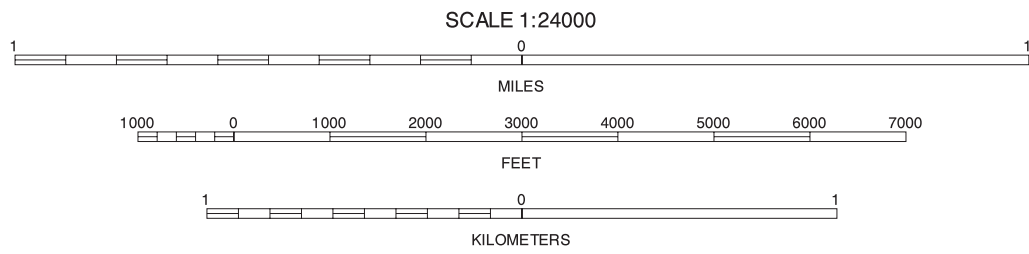
BRIGHTON, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 35 OF 39





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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

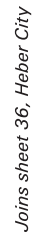


QUADRANGLE LOCATION

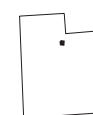


Joins sheet 30,  
Park City East.

Joins sheet 32,  
toyt peak



North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 12.  
Coordinate grid ticks and land division data, if shown, are  
approximately positioned. Digital data are available for  
this quadrangle.



QUADRANGLE LOCATION

FRANCIS, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 37 OF 39

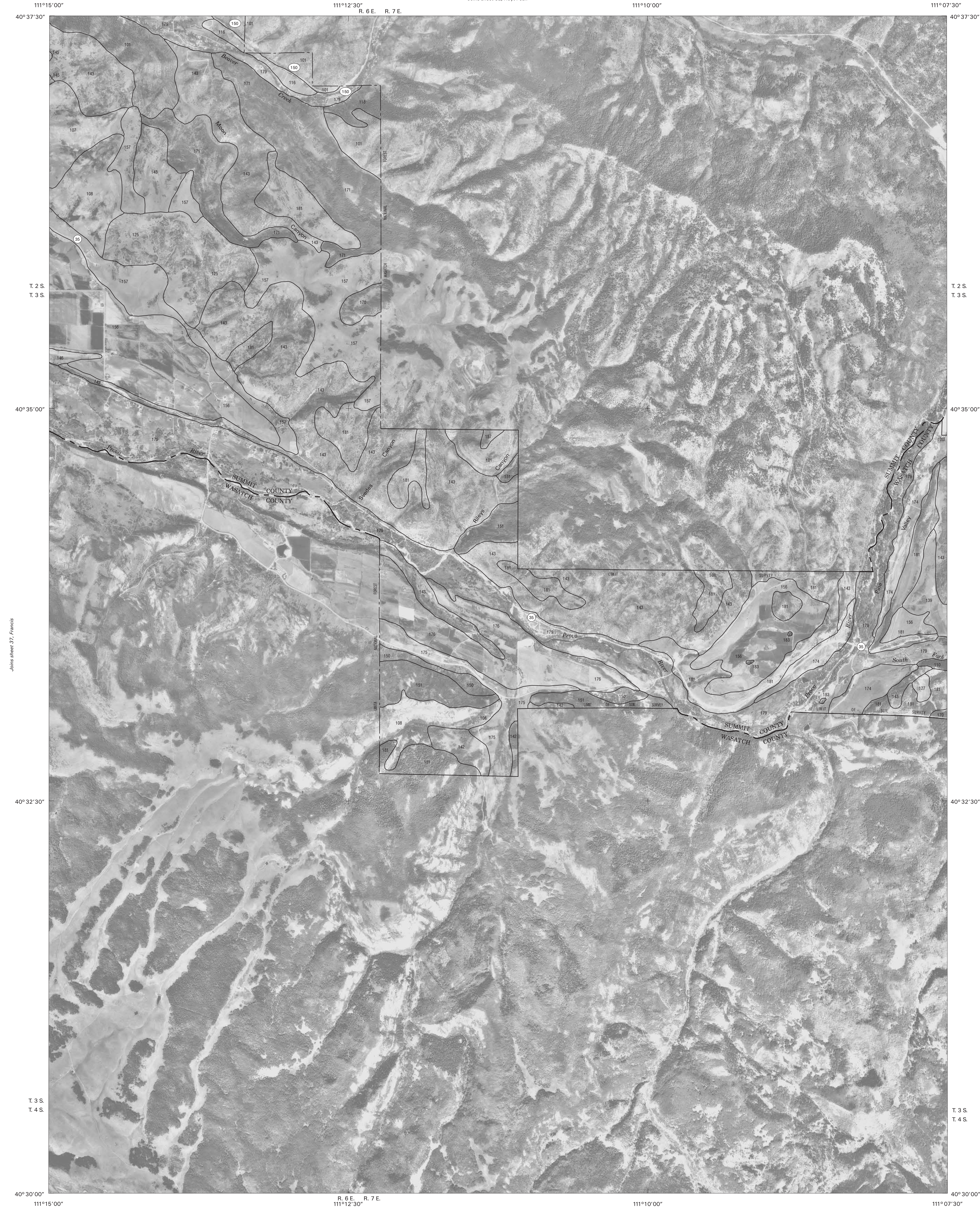


Joins sheet 31,  
Kampa

UNITED STATES  
DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE

SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
WOODLAND QUADRANGLE  
SHEET NUMBER 38 OF 39

Joins sheet 32, Hoyt Peak



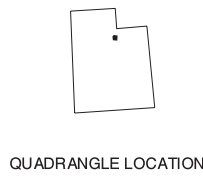
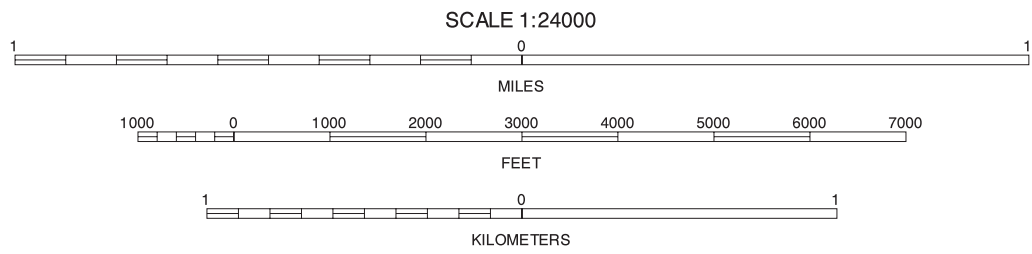
Joins sheet 37, Francis

Joins sheet 39, Soapstone Basin

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North American Datum of 1983 (NAD83), GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 12. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH



WOODLAND, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 38 OF 39



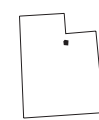
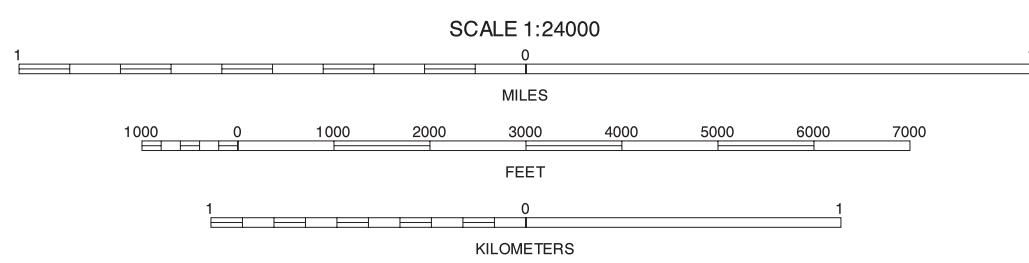
Joins sheet 32,  
Hoyt Peak

SUMMIT AREA, UTAH, PARTS OF SUMMIT,  
SALT LAKE AND WASATCH COUNTIES  
SOAPSTONE BASIN QUADRANGLE  
SHEET NUMBER 39 OF 39



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North American Datum of 1983 (NAD83). GRS-80 Spheroid  
1000-meter ticks: Universal Transverse Mercator, zone 12  
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this quadrangle.



QUADRANGLE LOCATION

SOAPSTONE BASIN, UTAH  
7.5 MINUTE SERIES  
SHEET NUMBER 39 OF 39